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ORIGINAL ARTICLES.

TECHNIQUE OF X-RAY THERAPY.

BY DR. ROBERT KIENBOECK, of Vienna, Austria.

(ILLUSTRATED.)

The technique of the X-ray therapeusis for skin diseases has been elaborated by Schiff and Freund, Gassmann and Schenkel, Hahn, Albers-Schoenberg and Straeter. Further contributions on this subject have been made by the writer in the *Wiener Klin. Wochenschrift*, 1900, No. 50, and in the *Wiener Med. Presse*, 1901, No. 19. A full bibliography will be found attached to these articles.

I. FUNDAMENTAL PRINCIPLES OF RADIOTHERAPY.

Radiotherapy depends upon the fact that the skin undergoes a peculiar transformation under the influence of rays from the Roentgen light. In other words, a so-called "Roentgen dermatitis" is set up. The fundamental principles of the technique embrace the following:

1. The active agent is embodied in the X-rays which come off from an X-ray tube or Roentgen tube.

2. All kinds of X-rays do not act alike; rays of a moderate penetrating power (*i. e.*, which penetrate soft parts in a moderate degree) act more powerfully than those of greater penetrating power.

3. The degree of change which can be brought about in the skin depends upon the intensity of the radiance.

4. This effect is seen on the skin after a latent period of some weeks' duration.

The technique of X-ray therapy depends upon these fundamental principles, and is besides a matter of practical possibility, because the intensity of the radiance as well as the expected effect may be exactly regulated at will.

Before discussing the subject further, it might be well to qualify the four fundamental principles with some explanatory remarks.

I. The active agency of the functionating Roentgen tube is the X-ray and no other forces which come off from the Roentgen tube (*e. g.*, kathodal rays do not penetrate the wall of the tube, at the same time electrical waves of known vibration have no effect upon the skin). Further, the exposure of the skin to the action of static electricity and electric sparks is, as far as these peculiar changes are concerned, without any significance.

Because the X-rays proceed principally from the focus of the tube, and go in straight lines in all directions (within a space that is bounded by the plane of the

anti-kathode mirror upon its negative side), the focal rays are the principal with which we have to concern ourselves. The rays from the glass walls of the tube and from the positive pole of the anti-kathode can, for all practical purposes, be disregarded on account of their slight intensity.

On the skin of the forearm the inflammation begins (shown in Fig. 1 by the punctated drawing) after several weeks only on the parts not protected with lead, and only on that half of the same with which the more intense rays come in contact. The boundaries of the area of exposure to the rays are not exceeded by the inflammatory zone. The inflammatory zone is sharply marked off both proximally and distally, yet the inflammation is less severe towards the under side.

That the effect on the skin only takes place by the X-rays falling upon it was proved by interposing between the tube and the skin a lead diaphragm, the opening of which showed enlarged upon the skin.

In general, the more we obstruct the rays the less will be their effect on the

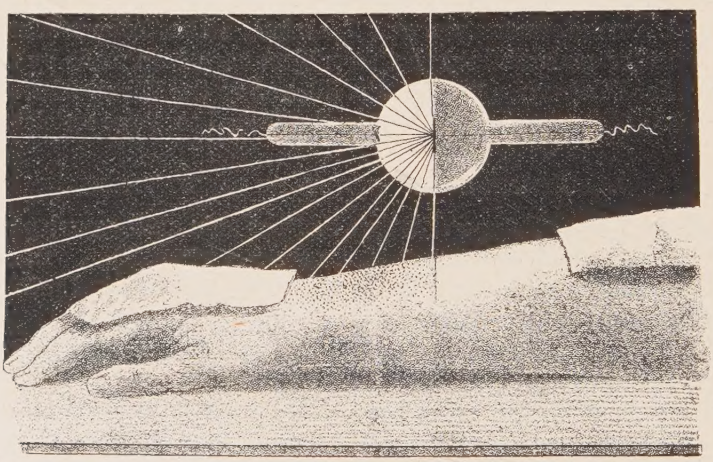


FIG. 1.

skin. A hard rubber plate interposed will cause only slightly decreased effect upon the skin; tin-foil decreases it very much, while a sheet of lead 1 mm. thick prevents it altogether.

II. Roentgen tubes are found in various conditions at different times. They change with use and therefore exhibit different properties at different times. For our purpose we can divide the tubes into five classes showing different characteristics, according to the different degrees of vacuum present. In the following classification, the vacuum becomes less and the amount of air contained increases, as we go down the scale:

1. *Tubes, which are too hard*, because they contain too little air, are not penetrated by the induction-currents of the highest tension which is at our disposal, and therefore give out no Roentgen light but only electrical waves.

2. *The hard tubes* through which a part of the current of high tension can pass, this being changed into Roentgen light of a highly penetrating quality. With it we get on the fluoroscope and the photographic plate a shadow-picture

of the hand which is lacking in contrast. The soft parts and the bones being about equally well penetrated by such rays, very little of the light is absorbed.

3. *The medium-soft tubes or good tubes* possess a moderate amount of air,

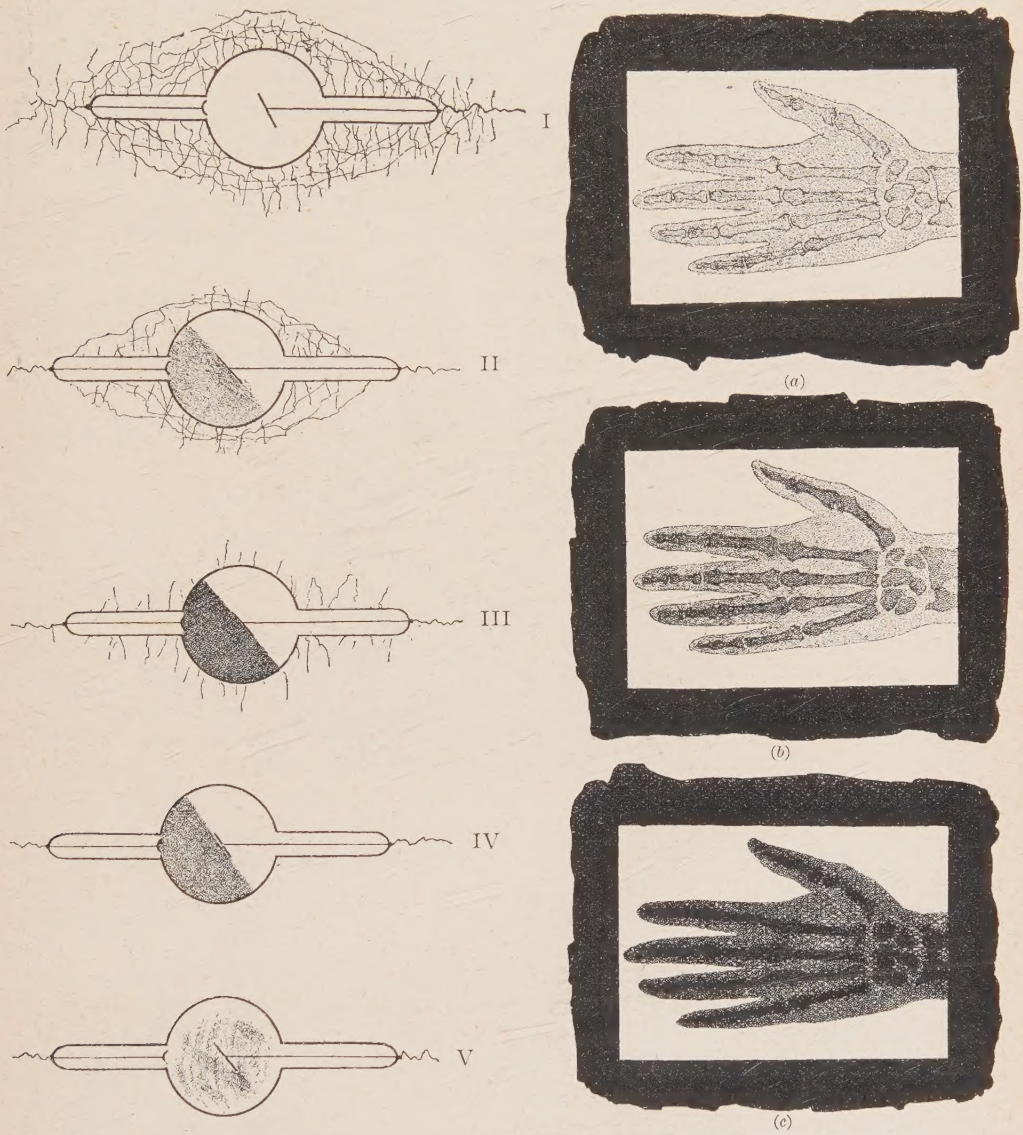


FIG. 2.

NOTE.—Tubes I. and V.—no X-rays produced. Illustration (*a*) shadow picture of tube II ; (*b*) tube III.; (*c*) tube IV.

transform almost the entire electrical stream into Roentgen rays, give an intense radiance and one of moderate penetrating power.

These "critical" Roentgen rays cast the sharpest shadows of the different parts of the body. They are therefore better absorbed by the tissues than are the highly penetrating rays from hard tubes, and have consequently a more intense effect upon the tissues, particularly on the skin where they enter; deeper the effect is very slight, because the rays have been already weakened (a change of X-ray energy into chemical energy).

4. *The soft tube* contains only a small amount of air and is a better conductor. These tubes produce, with a current of lower power, a more intense light. No part of the electricity is lost outside the tube; and it can be touched with the finger without getting a spark; its light has only a slight penetrating power; only thin parts of the body, viz., the hand, etc., are penetrated. In the shadow-picture the bones appear black. The greater part of these rays are retained by the skin and reach the deeper parts in a much less effective state. Even a short radiance from such a tube will produce changes in the skin, but to an inconsiderable depth.

5. *The tubes which are too soft* do not transform the current into X-rays; they are for our purposes equally as useless as those which are too hard.

The above sketches illustrate the effects produced by the tubes above referred to. The electrical discharges on the outside of the tube are indicated by wavy lines, and the green fluorescence of the X-rays where it passes through the

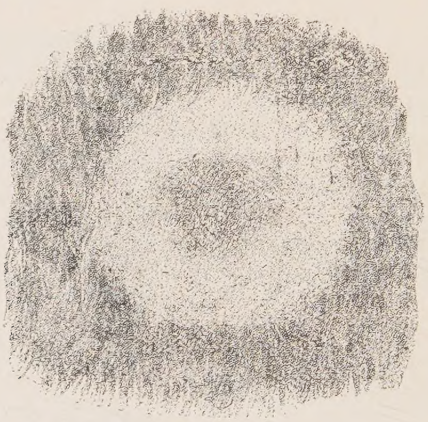


FIG. 3.

wall of the tube by shading. The spots in tube No. 5 indicate the presence of violet Geissler light.

The shadow-pictures produced by the tubes II–IV are depicted alongside of the illustrations of the same.

Since tubes grow softer during the passage of the current, and in the course of time through continuous use become harder, we now make use of those only in which the amount of air can be regulated. When the vacuum in a tube is not what we desire, it is allowed to fill with air until it has become what we call "critical," and is then lighted and used. The fitness for dermatological use is the same as that for diagnostic purposes.

III. The degree of change in the skin depends upon the intensity of the radiance, the vacuum condition of the tubes being the same. The amount of the rays absorbed by the skin determines the grade of the Roentgen dermatitis. The exposure of the skin can be compared with that of the photographic plate.

The total effect of the exposure of a region depends upon the intensity of radiance of a single X-ray wave and upon their number. The intensity of the radiance of a region at the moment a light wave strikes it is proportional to the intensity of the light emitted; furthermore, it is in an inverse ratio to the distance of the region from the focus and to the angle of the rays.

If the tube is near a level skin surface the effect is very irregular. In a disk-shaped area, the focus being just above its center, there occurs in a rabbit violent inflammation of the skin around a ring which is several cm. broad, and which itself shows but a little change (Fig. 3). A vaulted surface, of course, reacts within much narrower boundaries.

The time of exposure is determined by the number of Roentgen rays which strike the skin. A remark concerning the length of exposure is futile unless the number of interruptions of the primary current and the number of those in the induced current and the Roentgen light are given. It is by no means unimportant to realize whether the skin at one exposure receives a certain number of X-ray waves with exceedingly rapid interruptions, or whether the same number are received at several sittings separated from another by one day, or whether the same is received in one sitting prolonged corresponding to the lower number of interruptions. It is to be supposed that pauses allow the tissues to recuperate.

[TO BE CONCLUDED IN FEBRUARY ISSUE.]

PENETRATING WOUNDS OF THE HEART, WITH SUTURING OF THE WOUNDS—REPORT OF A CASE.

By H. L. Nietert, M. D., of St. Louis, Missouri,

SURGEON IN CHARGE OF THE ST. LOUIS CITY HOSPITAL.

In [volume viii., No. 12 (December, 1901), of the Interstate Medical Journal, I reported a collection of twenty-three cases of penetrating wounds of the heart with suturing of the wounds. This number included one of my cases operated upon in April last. I now wish to report my second case, operated upon October 17th; also two additional cases collected from the valuable article of Dr. Tully Vaughn, in *Medical News*, December 7, 1901, and one reported in *Riforma Medica*, September 2, 1901, by Dr. Giovanni Ninni.

The following is a report of my second case:

E. D., age twenty-seven, born in Alabama, entered the hospital October 17, 1901, with a penetrating wound in left chest. Patient was in a semi-conscious condition, and the greater portion of his history was obtained several weeks after admission to the hospital. He stated that he had been steamboating on the steamer "City of Chester," which runs between St. Louis and Chester, Illinois When the steamer landed at Chester several colored roustabouts began a quarrel with patient, and one of them stabbed him in the sixth interspace, a little to the right of left papillary line. The instrument used was a long-bladed pocket-knife. Patient then walked a distance of about one hundred feet and asked a bystander where he could lie down quickly. At this moment he fainted and fell. The stabbing occurred at 11:00 P. M. on October 16th; he arrived at the hospital at 1:30 P. M. October 17th, fourteen hours after the injury. On entering the hospital patient seemed to be suffering from great shock and marked dyspnea. Temperature, 98°; pulse, 104; respiration 32.

INSPECTION.

Revealed a well-developed negro, weighing one hundred and ninety pounds, about five feet eight inches in height. An incised wound was seen in the sixth interspace, a little to the right of the left papillary line. Wound was three and one-half cm. long.

PERCUSSION.

Superficial area of cardiac dullness extended almost to papillary line; resonance over left upper lobe was clear and pulmonic; in region of nipple there was slight flatness; over left lower lobe, posteriorily, there was absolute flatness; resonance over right lung was pulmonic.

AUSCULTATION.

Vesicular murmur and normal lung sounds could be heard over entire right lung and upper lobe of left lung. Over the lower lobe of the left lung, however, the sounds were remote and indistinct. Over the precardial area could be heard a distinct splashing sound, synchronous with every systole. The heart sounds were not very definite, and at intervals seemed to merge into each other; heart action was very turbulent From the symptoms a diagnosis of internal hemorrhage was made, probably coming from the heart. In accordance with our routine hospital practice, it was immediately decided to explore the wound and ascertain the source of the hemorrhage. Patient was immediately prepared for operation, and without an anesthetic the wound was slightly enlarged to permit of a digital examination. With the finger passed into the wound, a cut could be readily felt in the pericardium, and a second wound in the left and posterior aspect of the heart. In view of the serious condition of the patient, it was immediately decided to attempt the suturing of the wound in the heart. He was given a few whiffs of chloroform anesthesia and an incision was made along the lower border of the fourth rib, extending for two inches outward from the left border of the sternum. A second incision was made along the lower border of the sixth rib to a point about two inches to the left of the sternum. The outer extremities of the two incisions were united by a third incision. The fifth and sixth ribs were divided in the line of the outer wound, as were also the intercostal muscles and pleura. The entire flap, composed of skin, muscles and ribs, was forcibly pulled toward the right side, partly breaking the cartilages near the sternum. (The flap resembles that first outlined by Rotter, which I described fully in my last article.)

The opening thus made gave an excellent view of the pericardium. The blood could be seen trickling from the pericardial cut, especially on systole. The left lung was constantly obscuring the field and was spattering blood over the operator. With a view of removing some of the blood, patient was rolled on his left side and about one and one-half pints was thus removed. A gauze pad was then placed over the lung to keep it out of the way. The cut in the pericardium, which was about one inch in length, was enlarged until it measured about two inches, and the edges grasped with long, slender forceps. At first no wound could be seen in the heart, but blood could be seen welling up from the back of the organ. The heart and pericardium were then tilted forward and to the right by means of the fingers of an assistant, and the pericardial sac mopped out with gauze. A cut was then seen three-fourths of an inch in length in the wall of the left ventricle. It was located quite far back and ran perpendicular to the long axis of the heart. A constant small stream of blood was seen to flow from the wound. It seemed that the knife had made an extensive advance into the wall of the ventricle, but it was impossible to state with certainty how large was the wound in the endocardium. The wound was not probed, but it appeared certain that the endocardium had been penetrated. An attempt was then made to draw the heart forward with slender forceps, as in my former case, but it was found impracticable. With the middle and index fingers held behind the heart, it could be brought into excellent position. Two interrupted silk sutures were introduced by means of a highly curved gut-needle, which stopped the hemorrhage completely. While introducing the needle the thickness of the wall was borne in mind, as it was intended to avoid, if possible, the endocardium.

No endeavors had been made to prevent infection before patient came to our hands; it was, therefore, presumed that the pleural cavity and pericardium had been infected, and it was decided to drain. A small drainage was, therefore, introduced back of the heart, and the pericardium closed with the exception of about one-half inch. Another drain was placed into the pleural cavity. The osteoplastic flap was now permitted to fall back into position, and sutured, except at the point of exit of drain. An antiseptic dressing was applied and patient placed in bed at 4 P. M.

At 4:45 P. M. patient's temperature was 98°, respiration 32, pulse 104.

EXAMINATION CONTINUED.

Digestive System.—Teeth good, bowels regular, assimilation good.

Nervous System.—Nothing unusual observed.

Genito-Urinary System; Urinalysis.—Single specimen; specific gravity, 1022; color, amber; transparency, clear; odor, normal; reaction, acid; albumin, a trace; sugar not present. Microscopical test, calcium oxalate crystals found, hyaline casts, red and white blood cells, and bladder epithelium.

POST-OPERATIVE COURSE.

Patient was immediately given hypodermoclysis of 500 c.c. of physiological salt solution, strychnine and spirits of frumenti, and the stimulants repeated at regular intervals.

October 18th.—Patient gradually grew restless, and later in the afternoon became delirious. In addition to the stimulants mentioned above, saline enema were given every three hours during the day. Wound was dressed, drains from the pericardium were removed, drains from pleural cavity also removed, and patient was turned on his side to allow escape of about 60 c.c. of sero-sanguineous fluid. A drain was again placed in the pleural cavity, but no drain was reinserted in the pericardial sac.

October 19th.—Patient continued very restless and delirious; evening temperature 102°, pulse 120, respiration 46; wound dressed.

October 20th.—Very restless; morphia administered hypodermically; saline enema four times daily. Evening temperature 101°, pulse 120, respiration 30.

October 21st.—Still restless; temperature 101°, pulse 120, respiration 36.

October 22d—Temperature 101°, pulse 116, respiration 24.

October 24th.—Drain removed from pleural cavity; patient's back was elevated to a semi-reclining posture with pillows; rested some better. Temperature 98°, pulse 108, respiration 24. A small amount of purulent fluid discharged from the wound, which, on microscopical examination and on culture on glycerine-agar, showed the presence of staphlycoccus pyogenes albus.

October 26th.—Temperature 103°, pulse 112, respiration 36.

October 28th.—Patient very restless; wound still continues purulent; temperature 104°, pulse 120, respiration 40. Left pleural cavity had evidently been infected, but no septic pericarditis could be demonstrated.

November 1st.—Small amount of pus still discharged from wound; temperature 100°, pulse 100, respiration 28.

November 3d.—Temperature 101°, pulse 100, respiration 38. Dullness over left lobe slightly increasing. Paracentesis of chest failed to locate pus.

November 10th.—There was a sudden rise of temperature to 102°; patient became very dyspneic, breathing at the rate of 48 per minute; pulse very frequent, counting 140. There was now a complete flatness over lower lobe of left lung and a bulging was found over left nipple. Paracentesis of chest revealed a thick, pale-red liquid, which on smear preparation showed pus-cells, red and white corpuscles. He was hastily prepared for thoracotomy, which was done under cocaine anesthesia. One inch of the left eighth rib was resected in the

post-axillary line and a large amount of purulo-sanguinulent fluid was removed, and a large rubber drainage tube introduced into the wound. Dressing was applied, patient heavily stimulated

November 11th.—Temperature, pulse and respiration subsiding, patient feels improved.

Temperature, pulse and respiration almost normal until November 26th, when temperature suddenly rose to 102°, pulse 104, respiration 32. The conditions were brought to normal again by saline purge and laxative enema.

November 27th.—Temperature 98°, pulse 96, respiration 24. Patient feels well. He is now allowed to blow up a pneumatic bed-ring so as to expand his lungs. This exercise was performed twice daily, patient being instructed to use moderate force.

December 1st.—Patient allowed to sit up.

December 2d.—Patient is now instructed to practice a series of calisthenics so as to exercise his chest and muscles of respiration. He also continues to blow up the pneumatic bed-ring twice daily.

December 10th.—Drainage tube removed from wound.

January 4th, the date of this writing, wounds are entirely healed and patient is absolutely well.

Physical examination of the patient shows that all his organs are in a fairly good condition. Apex beat is felt in the fifth intercostal space, about an inch to the right of the papillary line; percussion shows the heart dullness extending over normal area; auscultation shows the heart to act freely and regularly; percussion over the lungs shows the left side very slightly dull; although the vesicular murmur is audible over entire left lung, it is not as loud as on the opposite side.

The following are brief histories of two additional cases collected from the *Medical News* of December 7, 1901:

CASE 1.—Operated on by Bufnoir; instrument entered in left side of sternum in sixth intercostal space, injuring the right ventricle. Patient died.

CASE 2.—Operated on by Fontan; wound was situated on left side in cardiac region between third and seventh ribs; instrument penetrated left ventricle. Patient recovered.

A brief history of the case reported in *Riforma Medica*, September 2, 1901, is as follows:

Operation performed by Giovanni Ninni; instrument entered on left side of sternum and injured right auricle. Patient died.

The addition of these cases brings the number, collected from various sources, up to twenty-seven. A brief summary of the total number of cases is given below:

Number of cases recovered	9
Number of deaths	18
External wound located on left side of sternum in	25 cases
External wound located on right side of sternum in	2 "
Pleura injured in	26 "
Pleura uninjured in	1 "
Left auricle penetrated in	1 "
Right auricle penetrated in	1 "
Left ventricle penetrated in	17 "
Right ventricle penetrated in	7 "
Not reported	1 "

CONCLUSIONS DRAWN FROM THE STUDY OF THE ABOVE REPORTED CASES.

Firstly.—The mortality being only sixty-six per cent., speaks strongly in favor of operative interference in this class of wounds.

Secondly.—If pleura is involved in the wound, the Rotter operation described in my former article is the best method of approaching the heart.

Thirdly.—If the pleural cavity is not opened, the heart should be approached by the extra-pleural method, fully described in my former article.

Fourthly.—Infection of the pleura and empyemia readily follows this class of injury. If infected, pleural cavity should receive early drainage at some dependent part.

THE HYGIENE OF TUBERCULOSIS.*

By George Homan, M. D., of St. Louis, Missouri.

As I understand the subject to be discussed this evening, the share allotted to me would embrace only a consideration of the means and methods by which considerable bodies of people may be guarded against the inroads of tuberculosis in all its forms; but from the nature of things a knowledge of such protective resources can only be acquired by close observation and attentive study of the units composing such populations, for sanitary safety can come only through a thorough understanding of the laws of any certain disease with respect to the conditions of its origin, growth, and spread, and these laws can be comprehended solely by tested facts and characteristic effects observed in individual sufferers, after which a working plan for combating its extension and compassing its destruction may be framed and put into effect.

That there is most urgent need for the waging of active intelligent warfare against tuberculosis goes without saying. Reflect for a moment on the mortal toll which this prince of the powers of death, this greatest of pestilences, levies on the human race! Of all the deaths in civil life officially recorded throughout the world it regularly claims not less than one-tenth as its own. There is very high authority for the statement that one-third of all deaths between the ages of fifteen and sixty years are due to this one disease, while twenty-five per cent. of all bodies examined, dead from other causes, show evidences of the inroads of tubercle bacilli. It has destroyed with a uniformity so consistent and a sway so unrelenting for so many ages, that human energy seems to have been daunted when thus confronted, and efforts looking to its overthrow have lacked concert, and have not been productive of any wide or lasting results.

Let us consider briefly what the effect on the outside world would be (as well as on the morale of our own population) if one hundred and fifty persons died here every month of bubonic plague, Asiatic cholera or yellow fever—foreign pestilences that mercifully kill their victims in a few days rather than extend their sufferings over years! Would not local business be palsied, social ties be broken, the obligations of a common humanity often renounced, and would there not be an exodus of panic-stricken people fleeing whither they might, and this city be under ban of non-intercourse by other communities acting under the spur of frightened apprehensions of coming evil? That such would be the case cannot be doubted by any one who knows by experience, or has read the story of pesti-

* Read before Alumni Association of the Medical Department Washington University.

lential outbreaks—the many would flee but some would stand their ground, and at the head of these, as ever, would be found members of the medical profession. And it has been through the teachings of such dire experiences that all that is known of successful methods of resistance to epidemic disease has been gained, and which has placed public sanitation in the rank of a special branch of science.

In the case of tuberculosis a chronic condition of population infection obtains in every country that claims civilization, and the rule of this destroyer has been submitted to with but little organized resistance until quite recent years, when the nature of the disease and the manner of its propagation became known through bacteriologic study.

An examination of the mortality records for 1900, and those for last October, both show that the constant annual death-rate in St. Louis from all forms of tuberculosis is about fifteen per cent; while for every death there are probably not less than ten persons ill with more or less advanced forms of the disease.

That such a condition of affair does not lead to public panic and flight, as would be the case with fatal diseases that quickly run their course, may be due in part to a feeling of the hopelessness of such a course, and also to the fact that other cities suffer in an equal degree from the same cause; and this common infectious condition springs from the favorable circumstances generally existing, and the thoroughness with which the human field has been strewn with the seeds of this disease.

The Scripture story of the sower and the seed has been very useful to the writer as an aid to a clearer understanding of the behavior of communicable diseases and their incidence on human populations; for while this parable is usually applied in a spiritual sense, it may just as aptly be employed to illustrate the manner of epidemic origin and growth and the influences, adverse or favoring, which such manifestations encounter.

I shall assume that all here present are familiar with this parable—how some seed fell by the wayside and were devoured by fowls, how some fell in stony places and sprung up, but soon withered in the noonday heat because of lack of soil, how some fell among thorns and were choked, but how other seed fell into good ground and brought forth some an hundredfold, some sixtyfold, some thirtyfold.

Could we, in imagination, body forth in human semblance the fevered form of pestilence stalking to and fro across the field of the human world, industriously broadcasting from her wasted hands the seeds of tuberculosis, and note the consequences, we should witness results precisely analogous to those which befell in the case of the husbandman sowing the cereal grain; some seed would fall on human ground so resisting that not only would germination be impossible, but they would be quickly destroyed; other germs would find soil so poor that their scanty growth would soon perish; others would fall where hostile growths would choke them, but other seed would find in different persons that varying suitableness of soil that would enable them to yield a harvest of from thirty to one hundredfold.

What are the general conditions or circumstances that so modify the character or diversify the fertility of human soil with respect to this disease? Doubtless, first, would be found a hereditary or natural bent of tissue or organ which enables a luxuriant development to follow a lodgment of tuberculous germs therein. Second, would be a rapid deterioration of native vigor wrought by cur-

rent acute or previous exhausting disease. Third, would be gradual impairment of resisting power through bad surroundings, foul air, poor food, lack of sunshine, damp and dirt—briefly, the picture universally presented in overcrowded habitations, where all these factors prepare the human soil for disease, and where the morbific germs fall most thickly through the ignorance or negligence of the sufferers or their associates.

From the foregoing it follows that there are two principal ways by which control of the spread of this disease may be secured: one by the destruction of the seeds immediately as they are given off by the sick persons, the other by the sterilization of all soil suitable for their reproduction; while a combination of both methods would accomplish its practical extinction. The instant destruction of all seeds given off would imply a knowledge of every person harboring the disease, and the recognition by all such persons of the dangers to themselves and the public of the dissemination of such germs; while to reach and maintain a state of reasonable hygienic safety would demand constant medical and sanitary oversight, with diligent public teaching as to the risks attending any default or carelessness in this respect.

The physical upbuilding of persons prone through hereditary or acquired causes to offer a kindly soil to this disease would be a slower matter, for so long as economic conditions continue to abridge the native right of man to wholesome environment—to his birthright of clean air, free sunshine and other natural accessories to health—by forcing a considerable share of population into hovels, dens and slums, no striking change for the better will appear; but, meantime, if diseased persons in such circumstances can be instructed and controlled to the extent of destroying in part even the infective matters produced, and their susceptible neighbors and associates thus protected from invasion, certainly a considerable forward step will have been taken. But to be measurably effective the whole world must join in, for the speed of travel to-day is such that the antipodes is our neighbor, and coughing cases of this disease can girdle the earth in a few short months, sowing infection broadcast daily if they will.

A pestilence so deeply rooted in population conditions and of such world-wide extent as tuberculosis cannot be successfully combated by superficial means —no measure can avail as a remedy that is not radical in its nature, reaching to the springs and sources of the malady; but until public conscience and enlightenment shall decree that the conditions which beget hectic hot-beds, fever nests, consumption dens, and human rookeries shall be no more, municipality and state must make the best fight possible with the means available; and as disease, like all other forces in nature, obeys a law to which there is no exception, in that it follows the line of least resistance, the opportunities for its spread must be curtailed to the greatest possible extent by acceptable methods of destroying sputa, sterilizing dwellings, fabrics, etc., safeguarding meat and milk supplies, and by the removal of the indigent sick to special institutions designed to afford to them every advantage that pure air, clear sunshine, good food and general wholesome conditions can command.

CLINICAL REPORT.

ABDOMINAL TUMORS.

By Jesse S. Myer, M. D., of St. Louis, Missouri.

The following cases of abdominal tumors which came under my observation during the past year present points of sufficient interest to justify their being reported.

MALIGNANT TUMOR OF THE KIDNEY.

H. C., a tailor, age forty-four years, was referred to me by Dr. Schwab, in March, 1901. Family history good. He came to St. Louis in April, 1898, weighing one hundred and ninety-two pounds. Prior to that time he claims never to have required the services of a physician. Two months later he began complaining of "burning pains" in the epigastrium, accompanied by eructation of gas. He attributed this to the ingestion of large quantities of soda water. In August he began vomiting immediately after eating. The vomitus was very sour, both to the taste and smell, but at no time contained blood. Frequently the "food seemed to lodge on the way down," and he was compelled to drink water to relieve this sensation. Much mucus was expectorated, which he thought came from the stomach. In October his weight had decreased to one hundred and sixty-four pounds. The attacks of vomiting would cease for a month or more and then begin again. Appetite remained good throughout; in fact, he must frequently restrain himself from eating too much. In spite of this he has gradually lost strength, until now it is an effort to climb a single flight of stairs. Has been at his work regularly, however.

The bowels have been fairly regular at all times; there has never been diarrhea, and the stools, to his knowledge, have never appeared black.

With the exception of occasional palpitation of the heart, which has developed only within the past few months, there have been no symptoms referable to the respiratory or circulatory systems. He has never noticed swelling of the face or extremities; has had no eruption on the body, and denies ever having had any venereal disease.

A year ago there passed with the urine what he took to be a small clot of blood. He experienced no pain or disturbance in urination at the time, and was unable to attribute this phenomenon to any definite cause. (This was practically the only point of any importance that could be elicited with reference to the urinary tract.)

In August, 1899, his attention was called to an "enlargement in the left side" of the abdomen, and he was informed that it was of the spleen. The gastric symptoms have persisted throughout his illness, and are even now the source of his greatest discomfort. It has now been eight months, however, since he vomited. His weight (March, 1901) is one hundred and forty-five pounds.

The patient appears somewhat cachectic; the skin is pale and livid, and the extremities cold. The left side of the abdomen is slightly distended, and is occupied by a solid mass extending from the free costal margin above to a point opposite the anterior superior spine of the ileum below, and to the median line internally. The greater portion of the mass is contained in the lumbar and umbilical regions. The surface of the tumor is somewhat irregular, especially the lower border, which is decidedly indentated. At a point just above the umbilicus there is a small nodular mass as large as a hickory-nut on the surface of the tumor. Apparently the mass does not extend under the free margin of the ribs. The spleen is percussible. It is neither enlarged nor in any way connected with the

tumor. The mass is immobile, both upon manipulation and upon deep inspiration. Upward pressure in the posterior lumbar region brings it nearer the anterior abdominal wall. Though it can be distinctly felt posteriorly, there is no bulging. It apparently has no connection with the posterior abdominal wall. The patient's temperature ranges from 98° to 99°. The rectal examination is negative.

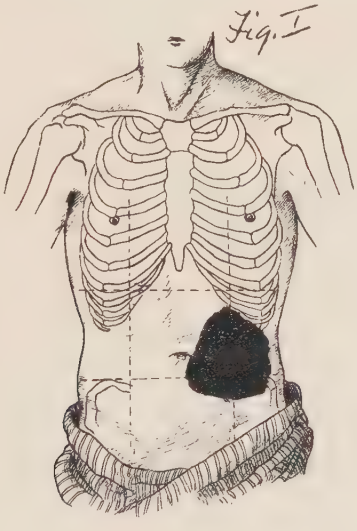
Urine.—1000 cc. in twenty-four hours; sp. gr., 1024; reddish-yellow; acid in reaction, clear; albumin positive (in traces); few hyaline casts; no indican.

Repeated examinations revealed nothing more than this.

The feces show no abnormal elements, microscopical or macroscopical.

Blood.—Slight poikilocytosis; relative increase of the leucocytes, and absolute increase of the eosinophyles.

In view of the fact that the subjective symptoms of the patient had been referred to the stomach throughout his illness, from its very incipiency to the present time, my attention was first directed to that organ. The possibility of a malignant growth of the fundus of the stomach, dragging it into the left iliac region, was foremost in my mind. I was greatly surprised upon the introduction



of the stomach tube and inflation of the stomach to find it occupying practically its normal position in the abdominal cavity. This operation was exceedingly painful to the patient. The examination of the gastric contents removed at the same sitting, one hour after a test meal, was still more indicative of the absence of any malignant involvement of the stomach.

Gastric Analysis.—Amount, 100 cc.; perfectly liquid, containing but few morphotic elements; hydrochloric acid decidedly positive; lactic acid negative; total acidity, 80; reckoned as HCl. 0.3 per cent.; peptogenic power normal, etc., etc.

The pronounced superacidity was in itself sufficient to explain the existence of the gastric symptoms. Unfortunately, the introduction of the stomach tube was such a tax upon his strength that I desisted from further examinations of the stomach contents. It would have been of great interest, however, to determine through repeated analyses the true nature of the gastric affection, inasmuch as it is unusual to find such a large amount of hydrochloric acid in the gastric contents of cachectic individuals. The amount of stomach contents removed, its perfectly fluid character, the marked superacidity, his abnormal appetite, together

with certain other of the patient's gastric symptoms, pointed not alone to superacidity, but also to hypersecretion. At any rate, every detail of the examination of the stomach speaks against any relationship existing between the tumor and the stomach. The inflated colon passes over and obscures the outer or lateral third of the tumor.

In spite of the absence of marked urinary symptoms, I felt justified from the foregoing examination in venturing a diagnosis of malignant tumor of the kidney. Consultation with a surgeon was suggested, with a view to possible surgical interference. Three days later I learned that my patient had gone to New York to consult physicians there.

In September, five months after he left my care, I learned upon inquiry from Dr. A. Brayton Ball, of New York, that the patient had died on May 2d, in his care. He regarded the tumor as a "malignant growth, probably retroperitoneal in origin," and inoperable. An autopsy was not granted.

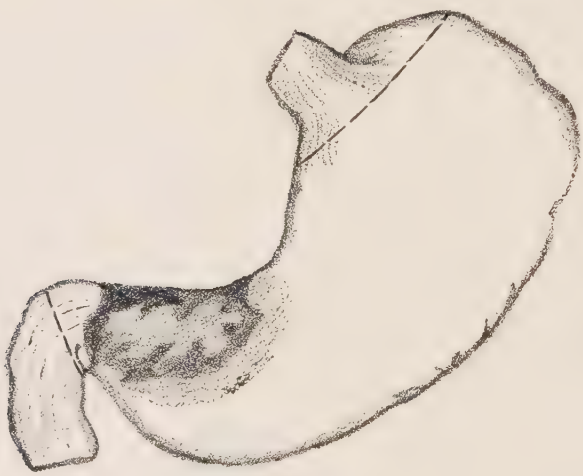


Fig. 2.

CARCINOMA OF THE PYLORUS.

C. G. S., in consultation with Dr. N. B. Carson; foreman in a hair factory; age thirty-eight; large, robust; five feet ten inches in height; usual weight one hundred and eighty-five pounds.

The patient became suddenly ill after a very hearty meal on Thanksgiving Day, 1900, the attack manifesting itself in sensations of "pain, bloating and fullness in the stomach." This was relieved in a measure after much belching, and free evacuation of the bowels. After the initial attack these symptoms followed, to a greater or less degree, every meal. A month later vomiting began, recurring at no definite time; sometimes immediately after meals, sometimes at night, and often in the mornings before breakfast. There were regular paroxysms of vomiting at intervals of three and four days. These gave him relief for a time. He described the vomitus as being copious, brownish in color, a fetid, sour odor, and containing particles of food that had been ingested on previous days. He was not conscious of having vomited blood. The pain, though more or less constant, was severest just before the attacks of vomiting. In the beginning of his illness all food caused him nausea, later meats only. He had had a slight cough ever since taking up his present vocation. The bowels have always been regular.

The patient entered the hospital February 17, 1901, weighing one hundred and forty-five pounds. In spite of the loss of forty pounds within three months, he still appeared fairly well nourished, muscular and strong. He was

able to be up and around and rebelled against being kept in bed. Though somewhat anemic, he showed no signs of cachexia. After the gastric symptoms were alleviated through lavage and proper dieting, he felt quite comfortable, complaining only of increasing weakness and lassitude and slight pains more or less continuous in the epigastrium.

The physical examination elicited pain upon pressure in this region, a slight resistance to pressure over the right rectus muscle on a level with the eighth and ninth costal cartilage. A tumefaction could neither be percussed nor palpated. The resistance, however, was quite constant. There were no enlarged lymph nodes or edema. Inflation of the stomach revealed the greater curvature at the umbilicus. Palpation of the inflated stomach, likewise the rectal examination, gave negative results.

February 21, 1901.—*Gastric Analysis.*—Ewald test breakfast removed one and one-quarter hours after ingestion; amount, 100 cc.; semifluid in consistence, forming two layers upon standing; acid in reaction; free HCl. negative; lactic acid positive; total acidity, 13; peptogenic power good (digesting blood fibrin in one hour). Yeast cells in branches. Flaxseed taken eighteen hours previously had entirely disappeared from the stomach and were found in the feces.

March 1st.—Ewald test breakfast; time, one hour; amount, 200 cc. HCl. negative; lactic acid in large amount. Orange eaten on previous day found in the contents.

March 7th.—Time, one hour; amount, 600 cc.; semifluid, forming three layers upon standing; odor decidedly sour; color that of weak coffee; HCl. negative; lactic acid and butyric acid positive; total acidity, 56. Yeast cells in branches; oil globules and muscle fibers, remnants of butter and meat taken the day before; bits of orange, and long non-motile bacilli (probably Opler-Boas).

Patient complains of pain and fullness in the epigastrium; inclination to vomit; poor appetite. The lower curvature of the stomach is now two finger-breadths below the umbilicus. Weight, 144 pounds.

March 11th.—Amount, 400 cc.; marked fermentation; HCl. negative; lactic acid positive; total acidity, 38. Yeast cells in branches; sarcina ventriculi in large numbers; masses of long non-motile bacilli.

In spite of careful treatment, including lavage, a highly nutritious diet, tonics, etc., the gastric symptoms increased, and weight and strength gradually declined.

From the foregoing analyses of the gastric contents, the inflation of the stomach, etc., it was quite evident that a gradual dilatation of the stomach was ensuing. (1) The sudden onset of a gastric disturbance in a man of thirty-eight years, prior to which he was in perfect health; (2) the rapid loss of weight; (3) the persistence of these symptoms, in spite of treatment; (4) the muscular resistance to pressure over the pylorus; (5) the constant absence of hydrochloric acid, and presence of lactic acid; (6) and the gradual development of dilatation of the stomach, all pointed to the existence of carcinoma of the pylorus.

An exploratory operation was advised, with a view to proceeding as existing conditions indicated. Dr. N. B. Carson performed the operation and found at the pylorus a nodular mass about the size of a hickory-nut and a thickening of the stomach wall along the lesser curvature and the posterior wall for a distance of two to four inches. There could be no doubt as to its malignancy. There was no involvement of neighboring organs and but few of the nearest lymph nodes. This seemed an ideal case for total extirpation. Such a procedure was decided upon and executed. The macroscopic and microscopic examination of the tumor revealed an ulcerative adeno-carcinoma, involving the pylorus, lesser curvature and the posterior wall to the extent indicated in figure II. The patient died, after running a perfectly normal course for eight days, as result of peritonitis due to leakage following a tearing of one of the stitches after the first dressing. It is greatly regretted that this unfortunate occurrence prevented our demonstrating the feasibility of total resection of the organ in favorable cases.

[TO BE CONTINUED.]

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EDITORIAL COMMENT.

THE DIAGNOSIS OF APPENDICITIS.

So much has been written and said on the topic of appendicitis, that the subject can almost be termed hackneyed unless we view the whole matter from a certain standpoint. Strange to say, most authors who have devoted their time to the pathology and therapeutics of this malady have been singularly silent as far as the matter of diagnosis is concerned.

Brilliant operators are sometimes prone to say that every pain in the iliac region of the right side means appendicitis; those who do not go so far in their enthusiasm, still commit the error of saying that the diagnosis of this disease is easier than that of any other which affects the abdominal contents.

Nothing could be farther from the truth than are both of these statements. A variety of disturbances in the functions of certain intra-abdominal organs lead to pain in the right iliac fossa and are in consequence the causes all-sufficient for the above mentioned brilliant operator's demonstrating that "in competent hands" the healthy appendix can be removed without endangering the patient's life. However, the unlucky victim reflects at his or her leisure on the benefits of a carefully made and correct diagnosis while spending two or three weeks in bed, especially if the old-time pain returns or is later accompanied by a reminder in the shape of a post-operative hernia.

Furthermore, the surgeon who pins his faith to "pain in the right iliac fossa" will be seriously handicapped in one of those rare cases in which all the pain and the inflamed appendix are in the left side.

Nothing better illustrates the exceedingly difficult nature of a diagnosis in some of these cases than the following observation from one of our St. Louis hospitals. A man of twenty-six complained for five days of the symptoms which usually characterize the onset of typhoid fever. Then he took to bed, a delirium commenced, there were rose spots, the pulse was slightly rapid and at times the temperature was elevated, but with no typical curve; the highest leucocyte count was 15,000, and no Widal reaction could be obtained at any time. Rectal examination revealed nothing; still a few days later, upon the reappearance of more definite symptoms than those which had in the beginning attracted attention to the right side, laparotomy was performed, and there was found high above the pelvic brim and just to the outer side of the cecum, a walled-off collection of pus amounting to two or three ounces.

In this instance the difficulties in diagnosis had led three painstaking men to consider the case successively one of typhoid fever, traumatic psychosis (a severe blow on the abdomen having been sustained), and finally appendicitis.

We are convinced that this case is but one of many, when we remember how many abdomens are opened and healthy appendices removed, with the result that the patient again experiences the old familiar pain before he or she has left the bed. Nor are these remarks limited to the acute cases only, but consider all the cases of appendicitis larvata (Ewald) in which the sufferer may go for years until the health has been wrecked, without the attention of even the most acute observer having been attracted to the offending minute appendage.

Is then appendicitis so easy of diagnosis? By no means; and the sooner this truth is brought home to a majority of our profession, the sooner will we earn the gratitude of the multitude of those suffering from this disease who yearly entrust their lives to us.

MUNICIPAL FILTRATION IN ALBANY.

The recent annual report of the superintendent of the Bureau of Water in Albany, New York, lays particular stress on the reduction of deaths from typhoid and diarrheal diseases since the establishment of the extensive sand filtration plant in 1899. The filter, which is characterized by Chopin ("Municipal Sanitation in the United States," page 280) as "representative of the best ideas in regard to sand filtration," consists of a series of eight basins with a filtering capacity of nearly fifteen million gallons per day. "In order to protect the filters from freezing they are arched over with brickwork supported on brick piers. The whole is covered with two feet of earth and grassed over. Access is gained through numerous man-holes which are protected by double steel covers. . . . . The water is collected underneath the filter by six-inch vitrified drains laid with open joints." . . .

It appears that there has been "a reduction of 67.86 per cent. in deaths from typhoid; of 60 per cent. in deaths from diarrheal diseases, and of 18.76 per cent. in the general death-rate from the average of the ten years previous to 1899." (Superintendent's report.) Apart from the establishment of the filter, there has been no improvement in the general sanitary condition of the city since 1899. Through the co-operation of the physicians of Albany it was determined that of the twenty-seven deaths from typhoid occurring during the year, ten were due to conditions independent of the water supply, leaving seventeen deaths to be charged to imperfections in the system. It is noteworthy that the season of

greatest prevalence of typhoid, formerly concomitant with the season of floods and freshets (winter and early spring), has, within the past two years, been shifted to the fall months, where it properly belongs.

The cost per one million gallons has been $4.65. The removal of bacteria has averaged 99.1 per cent. Out of forty-eight tests for bacillus coli communis, the filtered water gave negative results in thirty-one samples; in the remaining seventeen samples the average was one colony. All samples of "raw" water gave positive results, the colonies averaging eighteen.

ADENOIDS AS A FACTOR IN THE MEDICAL INSPECTION OF PUBLIC SCHOOLS.

Hartmann has found that the hearing is affected in seventy per cent. of all cases with adenoids, and Dench claims that more than half of the diseases of the middle ear are due to adenoid vegetations in the naso-pharynx. When we consider that out of fifteen thousand school children examined by Meyer, nine hundred and twenty, or six per cent., had adenoids, the importance of this subject at once becomes apparent.

It is a well-established fact, since Meyer's first important work appeared calling attention to these growths, that a large percentage of children have been spared from the many ill effects following the failure of the early recognition and removal of adenoids. Still, with all the literature written on this subject since that time, we find these cases largely neglected and many children going on to permanent and irreparable deafness. Yearsley says: "Even in these days of improved medical education and perfected methods of diagnosis, there are still practitioners who have the temerity to assure parents their children will outgrow deafness and discharge from the ears, the latter a constant menace to life. The former equally criminal to neglect, since the sense of hearing is, to some extent, as necessary to the taking of one's place in the community as that of sight."

Besides the ear conditions following the neglect of removal of adenoids, the effect on the physical and mental condition of the child is equally, if not more, important, as many of these children are much retarded in both their mental and physical development. This is especially noticeable in schools, as these children are frequently found in the same classes with children who are much younger than themselves, and they are often mistreated by both parents and teachers.

Granting the importance of hearing, and the effects these growths have on the hearing, adenoids, then, are among the most important of the diseases of childhood; and too much stress cannot be laid on the early recognition and removal of these growths, as much valuable time is often lost in the giving of tonics, and later removing the adenoids after the damage has been done. If our schools could be placed under medical supervision, and a regular systematic examination made of the children at the time of admission, and proper attention paid to this one factor alone, the results would soon manifest themselves.

STATE SANATORIA FOR THE TREATMENT OF TUBERCULOSIS.

Possibly the most beneficial results in the treatment of tuberculosis, particularly in its incipient form, have been obtained from the treatment of this disease in sanatoria. This has been well demonstrated in Europe, and it is more than probable that the same success as that obtained abroad will be reduplicated in America. The fight against the spread of tuberculosis has been inaugurated

on both sides of the Atlantic. A great measure of success will be at hand when we have scattered throughout the land numerous sanatoria for the segregation and treatment of cases of tuberculosis. There is a great need for such institutions. Those who have had experience as medical attendants in eleemosynary institutions will remember how inadequate the means at hand usually are in such institutions for the proper care of tuberculous patients. It is a fact that the consumptive ward in the average city institution might well have over its portal Dante's significant lines: "He who enters here leaves all hope behind."

Hence there are two good reasons why the State should erect numerous tuberculosis sanatoria. Firstly, because the present eleemosynary institutions are not properly equipped for the treatment of tuberculosis. Secondly, because the results of treatment of tuberculosis in sanatoria have far surpassed results obtainable with any other known method of treatment. Acting on these propositions, several States have already taken steps looking toward the establishment of tuberculosis sanatoria to be maintained by the commonwealth. New York has already decided to have her State sanatorium in the Adirondacks. Ohio will soon have her sanatorium in working shape. Resolutions have been passed by the Medical Society of City Hospital Alumni, declaring the need of a State sanatorium for the treatment of tuberculosis in Missouri. A committee from this society is at present taking steps towards securing the accomplishment of the object of these resolutions. The Camden County Medical Society of New Jersey have passed similar resolutions.

The profession of Missouri should see to it that this sanatorium is established. The medical men of every State in the Union should have such institutions founded in their respective States. In this way the treatment of tuberculosis will mean something more than the mere slow death of countless individuals. It will mean the saving of many lives and the prolongation of the lives of many others. It will mean the checking of the spread of the disease, and that, too, without condemning the hapless sufferers to rigid quarantine and foolish inquisitorial inspection at the hands of conscienceless health officials.

OVARIAN PREGNANCY AND OVARIAN HEMATOMA.

Bianchi (1741) and Boehler (1752) first differentiated extra-uterine pregnancy into the subvarieties tubal, ovarian, and abdominal. Researches during the last decade have brought about a correct understanding of this condition, and have tended to show the incorrectness of this classification. An overwhelming majority of writers denied the existence of a primary ovarian and abdominal pregnancy, and affirmed that an ovum ectopically situated could only develop in the tube, and that in cases where a developing ovum was found apparently situated in the ovary or in the abdominal cavity there existed in reality a secondary implantation of an ovum which had been expelled from the tube. As far as abdominal pregnancy is concerned, this opinion is still considered valid. There is even to-day no wholly unimpeachable instance of primary abdominal pregnancy on record. This is not the case, however, with primary pregnancy in the ovary. Tussenbroek's case at least would seem at present to be almost universally accepted as proof positive that an ovum may be impregnated while still within the ovary and may continue its development there. We have at our disposal two explanations for the etiology of this unusual form of ectopic pregnancy. We must assume either that the impregnating spermatozoon penetrates the wall of the un-

ruptured Graafian follicle and thus reaches the ovum, or that the ovum was not swept out at the time of the rupture of the follicle, and that at this moment a spermatozoon entered the follicle and impregnated the ovum. Thus it is readily understood that ovarian pregnancy must be a very rare occurrence.

On the other hand, one encounters comparatively often the condition which is described in almost all text-books as "ovarian hematoma." As soon as the possibility of primary ovarian pregnancy was established, various authorities very naturally advanced the theory that in certain cases of so-called ovarian hematoma the real condition was an ovarian pregnancy. Therefore we frequently see reports of such hemorrhages from follicles and of histological examinations of the specimens. Hitherto these examinations gave negative findings.

This question has been approached by Dr. N. Stone Scott in a somewhat unusual manner. This author published in *American Medicine* (November 23, 1901), under the title "Ovarian Pregnancy—Is it an Explanation of Ovarian Hematomas?", a paper in which he answers this question in the affirmative. The method, however, by which he reaches this conclusion does not seem to us wholly unimpeachable. Scott found in an intraligamentous (!) multilocular cyst one compartment "which seemed from its color to be filled with a dark substance." The contents of this compartment consisted of two portions, which the author alludes to in his description as "placenta" and "blood-clot." The histological examination of the specimen, which was made by the Hammon laboratory, and also by Prof. Welch, of the Johns Hopkins Hospital, determined that the condition was a hemorrhage in a corpus luteum with beginning organization of the blood-clot. No signs of pregnancy were discovered. Nevertheless the writer believes that his case is a true case of ovarian pregnancy. The justification for this opinion he finds in the fact that a piece of "*placenta*" sent by him to the Cleveland laboratory was found to be a blood-clot in process of organization. This report satisfied him that "retrograde metamorphoses which, of course, tend to obliterate the evidences of a pre-existing living ovum, in proportion to the length of time elapsing between conception and the death of the fetus, take place in the placenta and the fetal tissues to such an extent that within a few short weeks the laboratory can only return a finding of organizing blood-clots." This view of the author is erroneous, and hence also his conclusions regarding ovarian pregnancy. The retrograde changes which take place in the ovum and genital organs subsequent to the death of the fetus consist of degeneration, disintegration, and resorption. In no one of these states does the placenta, for instance, give the microscopic picture of an organizing blood-clot. In a far advanced state of regressive metamorphosis we may perhaps no longer be able to determine microscopically with which tissue we are dealing. But the fact remains that if the placenta is still recognizable macroscopically the microscopic examination will inevitably disclose placental tissue. On the other hand, if the microscope does not show placenta, then our macroscopic diagnosis is in error. We may be permitted, perhaps, to draw the following conclusions from Dr. Scott's report: Both portions examined were blood-clots, the sources of which were, on the one hand, an ovarian hematoma, and on the other a hematocele of a tubal pregnancy. In order to arrive at a reliable diagnosis the specimen should be examined in its entirety. A positive diagnosis of pregnancy cannot be made when the specimen does not show a single evidence of pregnancy. In a very late state of retrograde tissue-change all microscopic evidence may have disappeared. In this state, however, we can no longer speak of "placenta" or "chorion." In conclusion, it may be said that while it is possible that certain cases of ovarian hematomas are in reality ovarian pregnancies, such is very probably not true in the case reported by Dr. Scott.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Tetanus Following Gelatine Injection.—F. KUHN (*Muenchener Medicinische Wochenschrift*, November 26, 1901).—Subcutaneous injections of gelatine have been recommended by different authorities in cases of severe hemorrhages of all sorts otherwise uncontrollable; and in cases of aneurism. Early in the employment of gelatine a warning note was sounded by Schober, Gerhardt and others as to possible dangers which may result from it.

If we would use the commercial gelatine for injections, we must disregard entirely our knowledge of toxines. That putrefactive products play a role in its preparation is evinced by the odors emanating from such a plant. The author reports a case of hemophylia in a boy twelve years of age. An uncontrollable hemorrhage followed an adenoid operation. Fifty cubic centimeters of a two per cent. solution of gelatine were prepared by the druggist, sterilized according to the usual methods, and injected into the thigh. Gangrene resulted at the point of injection on the third day, and on the fifth day there was trismus and opisthotonos. Death soon followed. Animal experiments proved conclusively that the patient died of tetanus. Inasmuch as certain bacteria are so tenacious of life, and sterilization uncertain, the author recommends that gelatine be used for hypodermic injection only when prepared from the gelatine-bearing tissues of healthy animals.

Four Cases of Tetanus.—HERHOLD (*Deutsche Medicinische Wochenschrift*, No. 29, 1901), reports four cases of tetanus, three of which resulted from wounds infectad with dirt, and the fourth following a gunshot wound. In two cases tetanus antitoxin was employed twelve days after the infection took place. The action was satisfactory in both cases, though one died as a result of extreme weakness. The author recommends the prophylactic use of the tetanus antitoxin in all wounds infected with dirt. This will be possible only when the price is decidedly lower.

A Case of Tetanus Cured.—E. V. LEYDEN (*Deutsche Med. Wochenschrift*, No. 29, 1901), reports a case of tetanus which recovered after the use of Behring's serum. Jacob's dural injection was made. At the time of the first injection the temperature was 41° C. After the injection it decreased to 38.5°, and the next day to 37.4 . The change was so prompt and so marked after the injection that there could be no doubt as to the cause. A second injection brought about no change. A careful search revealed no point of injury. The case, however, was a typical one and a very severe form. Some of the cerebro-spinal fluid injected into mice produced tetanus. Chloral or opium should be used in connection with the Jacob dural injection.

A Case of Epidemic Dysentery in a Fetus.—MARCKWALD (*Muenchener Medicinische Wochenschrift*, No. 48, 1901).—A patient, in the seventh month of pregnancy, came to the hospital presenting symptoms of severe dysentery. Two days later spontaneous labor resulted, and a deeply asphyxiated child was born. All efforts to save it were futile. The post-mortum revealed in the intestines the

lesions of dysentery. Cultures from the blood in the right ventricle showed the presence of the bacillus dysenteriæ (Kruse). This is the only case reported in the literature in which it has been definitely demonstrated that dysentery is directly transmissible from the mother to the fetus in utero.

A Case of Atropin Poisoning.—SELO (*Muenchener Medicinische Wochenschrift*, November 26, 1901) relates a case of atropin poisoning in which a boy swallowed a grain of atropin. It was discovered three hours later, when the stomach tube emetics, etc., would have been useless. Chloral was given per rectum. He made a complete recovery within a few days, complaining at the end of the tenth day only of a slight headache, "dryness in the throat," etc. The case demonstrates the possible outcome of poisoning in which fifty times the maximum dose was ingested.

The Influence of Rectal Injections of Alcohol on the Gastric Secretions.—SPIRO (*Muenchener Medicinische Wochenschrift*, November 19, 1901).—Inasmuch as it has been proven that rectal injections of alcohol influence the gastric secretions of dogs, the author conducted experiments upon patients to determine if there be a like influence. Alcohol in different forms was injected into the rectum after it had been flushed with water, and the gastric contents were expressed every half hour until three or four specimens were obtained. The following conclusions were reached: (1) Absolute alcohol and alcoholic drinks given per rectum stimulate the gastric secretions. (2) The action begins usually after the introduction of 7-10 ccm. of absolute alcohol or alcoholic beverages representing that amount of alcohol. (3) The largest amount of acid is present about an hour after the injection, and then gradually decreases. (4) In cases of achylia and carcinoma ventriculi, the injections of alcohol are not productive of these results.

The Role of the Myocardium in Pericarditis.—STENGEL (*Journ. Am. Med. Assn.*, December 14, 1901).—Pericarditis is a condition of danger: (1) As a focus of infection. (2) As a cause of mechanical or reflex disturbance of the heart action. (3) As a starting point for a spreading inflammatory lesion. The circulatory disturbances of pericarditis are more often due to changes in the heart muscle than to mechanical or reflex disorders of the organ. In pericarditis there may be simultaneous involvement of the muscles of the endocardium or of all. The latter condition is known as endo-pericarditis. The myocardial element has, prior to this time, escaped the notice of the clinician, though for some time recognized by the pathologist. Fibroid degeneration of the heart muscle is even of greater importance clinically than fatty degeneration of the heart. Fibrosis, accompanying chronic pericarditis, results from circulatory disturbances or through direct extension. The best evidences of myocardial association with pericarditis are derived from physical examination. Hypertrophy is very rapid in these cases, due to degenerative processes; the pulse is weak and of low tension. The irritable impulse of Martins accompanied by a quick weak pulse is quite indicative of myocardial association with pericardial disease. Pericarditis is the diagnosis of the future, and the final prognosis will largely depend upon the degree of involvement of the myocardium.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Practical Uses of Omento-Plasty.—HERMES (*Deutsche Zeitschrift fuer Chirurgie*, Bd. 61, Hft. 5-6).—The author speaks of the fact that it has for a long time been common to reinforce with omentum, suture lines in normal gut or stomach after the completion of gastro-enterostomy, etc. This structure was of decidedly more use to him however, in a case which he cites; he had to deal with a large gastric ulcer, and though his sutures were carefully applied, most of them tore their way out; there was nothing left to do but sew the omentum to the edges of the stomach wound; this he did and the result was as good as could have been had the stomach wall been closed in the usual way. The second case illustrating the same principle was one of pyloric carcinoma adherent to the abdominal wall; here a six cm. rent complicated the separation of adhesions. Here again the condition of the coats of the stomach rendered accurate suturing impossible, so after having several threads partly cut their way out, the surgeon contented himself with plastering omentum over the remaining defect, and with as good a result as in the first instance.

Only once has he seen the omentum fail to perform similar duty: in this case there had been extensive contusion of the intestine at the site; as a consequence there resulted a fecal fistula. The most remarkable case noted was one in which there was removed a large cystic tumor from the pouch of Douglas; here was found a large perforation into the rectum, situated too deeply for suturing; the same was covered with omentum over which a gauze pack was placed, and healed without a fistula resulting. Histological examination has shown that columnar epithelium is in time produced from the intestine and stomach wall to clothe this new cover of a defect.

Carcinoma of the Male Breast.—WARFIELD (*Bulletin of the Johns Hopkins Hospital*, October, 1901).—The explanation accepted by our author for the fact that cancer of the breast is more common in the female than in the male is that the female organ, on account of its function, is exposed to many more traumata and irritants than is the same organ in the male. Thirty-two cases have been reported in the literature since 1890, of which five new ones are reported by the writer. Out of 307 breast cancers admitted to the Hopkins Hospital, only four were in men; a still lower ratio being reported from one of the London hospitals. The most of these tumors proved to be carcinoma simplex, showing in general no great difference in this respect from a like growth in the female. As far as removal and recurrence are concerned, these tumors in men bear a close relation to those which occur in women. One especially interesting report our author prints in full; this man, aged forty-seven, developed metastatic growths in various bones, although the internal organs remained free from involvement after removal of the primary focus. He died from spinal compression, and at the autopsy the mass which had caused the symptoms was found.

The Operative Treatment of Ileus.—PREINDLSBERGER (*Wiener Klinische Wochenschrift*, November 7, 1901).—Three cases are related with a mortality of sixty-six and two-thirds per cent. Two of them present unusual features, hence this review. The first patient was a child of six years, who presented symptoms of acute stoppage; laparotomy was done and an invagination found. This was withdrawn with fair ease and the child did perfectly well for eight days, at the

expiration of which time the same symptoms recurred. At a second operation exactly the same state of affairs was found as had obtained the first time. Though reposition was again easy the child never revived and died thirty hours later.

The second case was that of a boy fifteen years old; he had presented obstructive symptoms for five days, and at the operation two bands were found and liberated, but death ensued in a few hours.

The third patient was a man of sixty-five years; he also had been sick for five days and was in a terrible condition. At the laparotomy there was found a volvulus of the cecum, which was straightened out and the organ sutured to the anterior abdominal wall to prevent a recurrence. Soon after gas began to pass, then feces in immense quantities, and the man went on to complete recovery.

Chloroform, Ether and Lumbar Cocain Anesthesia.—MAUCLAIRE (*Gazette des Hopitaux*, December 5, 1901).—The chloroform should be of known purity, and to this end the doctor must prescribe a certain brand; a sure test of purity is this: pure chloroform will not irritate the nasal and other mucous membranes. To avoid intoxication the patient must get not more than eight parts of the drug for every one hundred parts of air. As to the heart lesions in which this drug is contra-indicated, the author says they are but two, viz.: myocarditis and asystolie. In all other cardiac conditions it can be used with impunity. Bronchitis is, as far as the lungs are concerned, the only contra-indication from this side. Certain general morbid conditions forbid the use of the drug: they are septicemia, diffuse phlegmon, hyper- or hypothermia with pulse disturbance.

In all toxic conditions it is better to stick to local anesthesia and operate rapidly.

The article next takes up the different methods of administering the drug, and treats it exhaustively. After the completion of this part of the subject he treats of the various means which have been employed for reviving patients who have presented toxic symptoms of a dangerous nature. Ether he would use only where chloroform is contra-indicated; and as lumbar use of cocain, he can neither commend or condemn it until definite indications for its use have been established.

Injury of the Vena Cava in Nephrectomy.—LINDNER (*Muenchner Medizinische Wochenschrift*, November 26, 1901).—This unusual accident happened to Lindner's patient, a man of sixty-two years, whose kidney he was in the act of removing for the cure of a large movable tumor which affected the right organ. The mass was being delivered from the wound when there shot up from the depths a tremendous stream of dark blood, causing the operator to exclaim that the vena cava had been torn. As soon as the wound was clear enough to permit of its depths being inspected, it was seen that this was exactly what had happened. The two ends were caught and ligated, but the patient died in a few hours as the result of air having entered the heart. It was shown that a part of the vena cava had been completely grown around by the tumor, consequently in removing the same the involved section of the vessel was torn out. Eight such accidents are reported in the literature. Twice the same vessel has been ligated as an operation of choice, and without causing the death of the patient; a fact of decided interest to physiologists and surgeons.

Some Practical Points in the Treatment of Cases of Fractured Pelvis with Ruptured Bladder and of Cases of Ruptured Urethra.—This is an injury which, according to C. J. BOND (*The Lancet* November 23, 1901) is especially characteristic of the hunting field, where the rider is thrown and rolled upon by the horse. The anterior wall of the bladder is almost always torn extraperitoneally, and the preves-

ical space must be opened to evacuate blood and urine. The membranous urethra, too, may be ground off between the ends of the fractured bones. If the bladder can be sutured, well and good; but where this is impossible, it is best to drain it with a tube which passes in at the rent and out through the meatus internus and on through an opening in the perineum. Where the urethra is sutured, the same is to be drained posteriorly to the suture and no catheter retained if first intention is to be expected. After rupture of the urethra where the bladder has to be drained in the way above indicated, a catheter must be finally passed and used as a permanent guide over which the urethral channel establishes itself; this is best done by introducing a sound in the usual way and letting the same come out at the perineal wound; it is next armed with a catheter and withdrawn; then the sound is inserted through the bladder wound and allowed to pass out through the perineum, where it is armed with the free end of the catheter and one more withdrawn.

Resection of an Esophageal Stricture.—BRAUN (*Deutsche Zeitschrift fuer Chirurgie*, Bd. 61, Hft. 5-6).—The patient, a girl of nineteen, had swallowed sulphuric acid about a year before the operation. At the time she presented herself there was an almost complete stricture just below the cricoid cartilage. She was able to swallow fluids, but most of the time no solid food. At the operation the esophagus was opened longitudinally, and then one and one-half cm. of the tube resected, including the stricture. Six catgut sutures were applied and the wound united by first intention. Through the above mentioned slit above the resected portion a stomach tube was introduced and allowed to remain in position, through which the girl was fed; the external wound closed up to the opening for the tube, and this was easily closed secondarily. Ten years later the woman was in perfect health and could swallow anything. Three other cases from other surgeons are given briefly; these are said by Braun to constitute the entire surgical literature of the subject.

Frontal Abscess of Nasal Origin Cured by Operation. — HERZFELD (*Berliner Klinische Wochenschrift*, November 25, 1901).—There are but seven such cases in the literature of this subject. This patient had taken cold six weeks previous to coming under the care of our author. Later headache and dizziness developed with a sensitive area over the eye-brow on the affected side. The patient had fever and the pulse ran high. Some time later the pulse became so reduced in its frequency that the author decided that brain compression must be developing, so determined on surgical interference. Pus was found in the frontal sinus, the posterior bony wall of the same was seen to be carious and the dura bulging into the wound. This was incised and a quantity of pus exuded, after which the finger could be pushed into a considerable cavity in the frontal lobe. All symptoms disappeared at once, and in five weeks the external wound had completely healed. Of the above mentioned cases in the literature, but one was cured by an operation.

The Surgical Treatment of Biliary Calculi, with Special Reference to Hepatotomy.—DAVIS (*Journal of the American Medical Association*, December 14, 1901). —This interesting article details experimental as well as clinical work of no little interest. His idea is to relieve the stagnation of bile by an incision into the liver substance, in cases where there is an obstruction, and where the obstructed ducts are not to be reached for some cause or other. Various experiments on the lower animals demonstrated the entire practicability of such a procedure by showing that it is possible to easily drain in a backward direction the congested biliary vessels in the liver.

The Operation for Hypospadias.—Beck (*Deutsche Medizinische Wochenschrift*, November 7, 1901).—The article opens with a history, in brief, of the procedures which have been adopted to combat this congenital defect. The author has devised several ingenious methods of his own, and seems to have met with good success in their application. One is to dissect free the short urethra and then stretch it forward to the end of the glans, where it is sutured in place beneath flaps made from the parenchyma of the same; or the glans may be pierced and the end of the urethra drawn through the hole thus made. There results no harmful curve in the organ, as the urethra can be stretched as much as desired. The younger the individual, the better this can be accomplished.

THERAPEUTICS.

IN CHARGE OF

WALTER BAUMGARTEN, M. D.

Modern Iron and Blood Preparations, and Their Employment in Practice.—Marcuse (*Heilkunde*, 1901, Hft. 4 and 5).—Marcuse subjects the modern preparations of iron, containing "organic iron," to a searching criticism, including in this list ferratin, carniferrin, fersan, the albuminates and peptonates of iron, the tinct. ferr. Athenstaedt, iron somatose, and the blood preparations of iron (hematogen, hemalbumin, hemol and hemogallol, etc.).

Conclusive experiments by noted workers have left no room for doubt (1) that the therapeutic action of iron depends upon the specific stimulant effect on bone-marrow, the blood-forming tissue; (2) that the stimulus is followed by an increased and more rapid development of the young blood cells into non-nucleated red blood corpuscles; and (3) that iron produces this result as such, and not in virtue of some complicated combination of elements. The simplest as well as the most complex preparations are absorbed through the intestines, and reach the bone-marrow through the circulation, but the complexity of the preparation in no way facilitates this process. The fact that some preparations, such as ferrum reductum and Blaud's pill, are well borne and others are not, does not affect the question of the absorption of iron and its specific action. It does not matter greatly what preparation of iron is administered, provided it contains a sufficient quantity of iron.

The employment of the hemoglobin preparations appears to be irrational in so far as their iron content is small as compared with some of the officinal preparations, so that the result obtained by small doses of the latter requires very large doses of the former. The hemoglobin preparations are more properly stomachics, which stimulate the appetite, and, therefore, improve the general condition, but do not yield the striking results of other preparations containing more iron. As a substitute for proteids in diet, they are disproportionately expensive.

Iron Therapy, etc.—E. Rost (*Therapie d. Gegenwart*, August, 1901).—It has been proven experimentally that animals which have been made anemic will assimilate iron when fed salts of iron. The quantity of hemoglobin may in this way be increased, as well as the total quantity of iron in individual organs (the liver, spleen and bone-marrow) and in the body as a whole. The duodenum and the adjoining portion of the jejunum have been shown to be the portions of the intestines through which iron is absorbed, irrespective of the iron preparation administered. The metal is always absorbed as an inorganic salt, whether given as a salt, as hematogen, hematin, or in the food; in animal experiments

it can be found only as an inorganic salt from the moment it is absorbed into the epithelial cells of the intestinal wall. Whether the increase in blood formation is due to the direct formation of hemoglobin or indirectly to the stimulation of the blood-forming organs is still an open question, but is comparatively unimportant in relation to treatment. Blaud's pill, the type of the inorganic iron preparations, certainly maintains its pre-eminence among all forms of iron. Should it be necessary to increase the quantity of albumin which a patient receives, it would be far better to prescribe a diet richer in proteids than to give the disproportionately expensive albumin preparations (hemoglobin, hematogen).

The Influence of Diet in Epilepsy on the Course of the Disease.—Schloess (*Wiener Klin. Wochenschrift*, November 14, 1901).—Schloess has experimented systematically with the various diets which have been advocated in epilepsy, taking the precaution of keeping the existing medicinal treatment unchanged throughout the experiments. The material at his disposal consisted of cases of epilepsy of several years' duration.

His results are summarized in the following:

1. An exclusive milk and vegetable diet does not reduce the number of attacks; nor does an exclusive meat diet increase them.
2. A diet containing a minimal quantity of sodium chloride, together with the administration of bromides, reduces the number of attacks but does not influence the physical condition. On this diet patients lose weight and strength.
3. A diet of fats and acids has no influence on the frequency of attacks.
4. Moderate quantities of alcohol (up to one liter of beer per day) do not increase the number of attacks.

The Dietetic Treatment of Epilepsy.—Balint (*Berl. Klin. Wochenschrift*, No. 23, 1901).—Balint declares that too little attention has, until now, been paid to the dietetic treatment of epilepsy, and recommends a diet with a low chloride content, under the influence of which he has seen very good results. He allows one to one and one-half liters of milk, forty to fifty g. of butter, three eggs (not salted), and three hundred to four hundred g. of bread and fruit, which together have a nutritive value of two thousand three hundred to two thousand four hundred calories and a sodium chloride content of little more than two g. Besides this, in making the bread which the patient receives, sodium bromide is substituted for its equivalent of common salt, so that the patient receives in addition about three g. of bromide.

The following conclusions are drawn:

1. Diet containing a minimum of chlorides is applicable to every case of epilepsy and should be tried.
2. Treatment succeeds best in an institution.
3. A rigid diet of small chloride content should be instituted in every case until the character of the disease has been definitely determined.
4. Small doses of bromide may be administered in addition to (3).
5. The method of administering bromides with the foods, especially as a substitute for common salt in bread, is recommended.
6. The sedative action of bromine in this method of administration is greatly increased, and may therefore be employed in other nervous affections in which a pronounced bromide effect is desired.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

R. B. H. GRADWOHL, M. D.

Upon the Intracellular Constituents of the Bacillus Typhosus.—MACFAYDEN and ROWLAND (*Centralblatt fuer Bak. Infect. u. Parasit.*, Bd. xxx., No. 21).—The special object of these authors' investigations was the study from a fresh standpoint of the intracellular factors in health and disease, by obtaining directly the cell constituents from the healthy cell and eliminating as far as possible excreted substances and those formed by the cell in a given environment. For the purpose of studying the intracellular structure of the bacillus typhosus, the bacteria were triturated and the cell plasma pressed out by means of a "cold" pressing method devised by the writers.

It was found that the bacillus typhosus produced a hemolysin in various culture media. The bacillus grown in spleen juice, with the addition of serum, produced a hemolysin at the end of eight days; in cultures of broth, at the end of six weeks; and cultures even one year old produced a hemolysin of the red blood cells. The various attempts to demonstrate the production of a soluble toxin by the typhoid bacillus have not hitherto led to any definite results. If the symptoms of typhoid fever are due to an intoxication as well as to an infection, the detection of a toxin would mark an advance in the treatment of the disease by inoculation methods. Typhoid bacilli, when grown on ordinary culture media, do not produce various poisonous soluble products. If the bacillus produces a toxin, then the ordinary laboratory culture media are not suitable vehicles for its origin. It was attempted to cultivate the typhoid bacillus in the fresh juices from various organs of the body, with the view of obtaining its growth under conditions more closely resembling its occurrence in the course of the natural typhoid infection. These experiments were of an entirely negative character. Freshly prepared organic juices do not favor the growth of the typhoid bacillus, nor, as a matter of fact, the growth of a number of other pathogenic organisms which were also tested. The absence of growth was undoubtedly due to auto-digestion of the fresh organic juices and its accompanying autolytic products.

The writers believe that the question of immunity should be approached from the standpoint of intracellular structure of the pathogenic organisms, both as regards the organism and as regards the soil upon which it is grown.

A Study of Chronic Hyperplastic Tuberculosis of the Intestine, with Report of a Case.—LARTIGAU (*Journal of Experimental Medicine*, vol. vi., No. 1).—The writer gives first an historical sketch of hyperplastic tuberculosis of the intestine. He states that it has been rather frequently observed abroad, but there have only been three cases reported in the English language. The case reported by Lartigau was of clinical interest, because it presented the symptoms of Addison's disease. The autopsy table showed the error in the diagnosis. It was found that the individual had suffered with a hyperplastic tuberculosis of the large and small intestine. The anatomical diagnosis made was as follows: Hyperplastic tuberculosis of the large and small intestine; right lobar pneumonia; tuberculosis of the adrenals and mesenteric lymph glands; acute splenic tumor; cloudy swelling of the liver, and slight chronic diffuse nephritis.

The intestine showed the following changes: There was a marked thickening of the intestinal walls, but no ulceration or swelling of Peyer's patches. The most conspicuous feature of the mucosa was the presence of numerous papillomatous masses rather clubbed in form. These outgrowths were most abundant

in the lower ileum, cecum and part of the ascending colon. They were freely movable, but rather rigid masses of tissue with narrow pedicles. They appeared to be covered with normal mucous membrane. The microscopical picture was as follows: The mucosa was considerably thickened with but little change in the epithelial cells. The tunica propria was considerably increased in thickness. Its tissue appeared to be made up almost entirely of closely packed round cells. So great was this cellular infiltration that the gland structures were pushed far apart. The papillomatous growths presented several points of interest. They were directly continuous with the submucous layer, and presented the same general character of infiltration already noted. The number of unstriped muscle-fiber bundles distributed in loose and irregular strands was striking. The more central parts of the papillary growths consisted of bundles of connective tissue rather loosely arranged, in which a number of round cells were discretely spread.

The writer concludes his paper by giving a short description of the treatment of this condition, saying that most of the cases of resection of the intestine for cancer of the cecal region reported without microscopical examination as cured are instances of hyperplastic tuberculosis. He further states that the treatment of the condition is obviously a surgical one, extirpation of the diseased tissue promising good results in a fair proportion of cases.

Gram-Staining Bacilli Found in the Infant's Stool.—Cahn (*Centralblatt fuer Bak., Parasit. u. Infectk.*, Bd. xxx., No. 19).—The paper in hand is mainly a commentary on the previous brochure on this subject issued by Tissier, some of the results of Cahn being somewhat different from Tissier's classical conclusions. Tissier's work was an important contribution, giving, as it did, new bacteria to the intestinal flora of infants, and at the same time tracing somewhat in detail the physiological and pathological relationship of these new species. Among the different new species isolated by Tissier might be mentioned the diplococcus griseus liquifaciens, the cocco-bacillus perfeteus, the bacillus anerobicus minut., the bacillus bidifus, and the bacillus exilis. Cahn directed his efforts mainly towards studying the morphology of the intestinal flora of infants, with special reference to the Gram-staining organisms.

His technique consisted of diluting a quantity of sterile water with a small quantity of the stool. Then an öse of this dilution was picked up and put into two per cent. sugar agar, and further dilutions practiced. By means of four dilutions he succeeded in obtaining isolated colonies. He found the acidophilus (Moro, Finkelstein) in the stools of infants fed on breast milk, also in the stools of infants fed on cow's milk, but not in such large quantities as in the first instance. This organism is especially characterized by its numerous involution forms. So peculiar is this involution-form that Cahn doubts that the acidophilus is really a single organism, but thinks that it is really representative of several species or groups. This organism was found in every organ of infants dying of intestinal diseases; also in the heart's blood in these cases. It grows on all culture media, but best in fluid media of acid reaction—4 ccm. of hydrochloric acid to 100 ccm. of the medium, with phenol-phthalein as the indicator.

Another organism staining, according to Gram, which was studied by Cahn was the bacillus exilis. This is a very small, sharply defined rod, growing singly or in chains of five elements in the stools, and practically the same on artificial culture media.

The bifidus communis was also found to stain, according to Gram, being demonstrable in the stools of breast-fed infants as well as in those fed on cow's milk. It is difficult to obtain a pure culture of this organism, because the acidophilus is often mixed with it, and there seems to be a symbiosis between these two species.

Raising the Melting Point of Nutrient Gelatin by Means of Formalin.—Vriens (*Centralb. f. Bak., Parasit. u. Infectionskrank.*, Bd. xxx. No. 19).—The writer scores H. J. van't Hoof's article which appeared in Bd. xx., 1 Abt. 368, of this journal, because Hoof did not give anything new on the subject and spoke as if he were giving an important contribution to bacteriologic technique, whereas the same thoughts were expressed long ago. For instance, Brown in 1897 gave similar experiences, as did Trillat in 1898. It is a matter of common knowledge in every laboratory that formalin is poured on stab cultures on gelatin to preserve the growth. Vriens seems to think that the above title should mean that a way has been discovered of raising the melting point of gelatin by mixing it with formalin without rendering the medium unfit for bacterial growth by reason of the bactericidal properties of the formalin. He takes exception to Hoof's misleading title, that is all, and concludes by stating that he will be the great man, indeed, who will discover a means of raising the melting point of nutrient gelatin without taking away at the same time its nutritive value as a culture medium for bacteria.

Concerning the Theory About Fat Staining.—L. Michaelis. (*Deutsche Med. Wochens.*, October 31, 1901).—Michaelis follows up the work of Herxheimer in regard to the staining of fat in tissue. He found that the so-called indifferent stains are good staining agents for fat. There are certain weak acid and certain weak basic stains which will stain fat. He believes that this property is due to the fact that all the fat has been extracted from their salts in the process of manufacture, and gives an excellent example in the shape of dimethylamidobenzol.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

On the Operative Treatment of Prolapse of the Uterus.—J. Mandelstamm (*Monatschr. fuer Geb. und Gyn.*, September, 1901).—The methods employed by the author were the Freund and the modified Wertheim operation. The former consists in the following: An oval-shaped area is denuded of the mucosa on both the anterior and posterior wall of the vagina. Then the *cul-de-sac* is opened transversely, and the uterus brought down through this hole into the vagina. A communication between the uterine cavity and the vagina is established by cutting through the fundus of the uterus and sewing the endometrium to the peritoneal cover of the fundus. The peritoneum is scraped off from both sides of the uterus corresponding with the areas of the vagina freed of mucosa and the uterus fixed in this position by sewing the corresponding raw surfaces together with catgut sutures. Wertheim has improved this operation in the following way: He denudes only the anterior wall of the vagina and brings the uterus down into the vagina by opening the vesico-vaginal pouch through the anterior fornix. The establishment of a new communication between uterus and vagina is not necessary. Advantages of this modification are: greater simplicity of the operation, less hemorrhage and preservation of the possibility of cohabitation. Mandelstamm performed in one case the Freund, in six others the Wertheim operation.

He considers both operations indicated only in cases of extensive prolapse. In exceptional instances, when the prolapsed parts in consequence of long exposure are considerably hypertrophied or ulcerated, Freund's operation can be performed; in all other cases Wertheim's operation is to be given preference.

When necessary this operation should be combined with a plastic operation on the perineum. Most of these operations will be performed in women after menopause. If a very severe case necessitates the operation before this period, the tubes should be resected after the uterus has been brought down into the vagina.

On the Use of the Uterus, Turned into the Vagina, as a Plastic Support in Operations of Prolapse.—Constantin J. Bucura (*Zeitschr. fuer Geb. und Gyn.*, vol. xlv., 1901).—The author gives a report of the immediate and remote results of Wertheim's operation in prolapse of the uterus and vagina in sixteen patients. [A short description of the essentials of this operation is given in the foregoing abstract.—Ed.] In only one patient the prolapse recurred. In this case the uterus returned to its pathologic position within ten days after operation. In the other fifteen cases, which were operated from eight months to two years before this article was written and the patients being re-examined, the results were very satisfactory. All patients were again enabled to do their housework. Even those who were obliged to do very heavy work were no longer annoyed by the characteristic bearing-down feeling. All dysmenorrhoic troubles and disturbance from the bladder had ceased. The uterus was firmly fixed in its new position, In only four cases did the uterus slightly separate the labia when patient was asked to bear down. In the sole case of recurrence the uterus could be seen in front of the vulva. In all instances the vagina was found narrow and of normal length. Four patients complained of pain during cohabitation. In conclusion, Bucura states that Wertheim's operation excludes absolutely the possibility of recurrence of the cystocele, one of the most annoying features of a prolapse. Menstruation and cohabitation are not interfered with by this operation. Sterility, however, is a necessary condition. The tubes must be resected if this operation is carried out in a woman during menstrual life.

Repair of a Complete Laceration of the Perineum in a Girl of Nine Years.—H. A Royster (meeting of South. Surg. and Gyn. Assoc., Rep. *American Medicine*, November 30, 1901).—The perineum of this girl was torn completely through the rectovaginal septum at her birth. The child's grandfather acted as accoucheur. Owing probably to dimmed eyesight and infirmity, a breech presentation was evidently mistaken for vertex position, and the obstetrician, introducing his finger into what he thought was the child's mouth, but which was really its vagina, exerted traction, and the result was a complete laceration of the baby's perineum. No immediate harm came from the accident, and it was resolved not to attempt a restoration of the injured region until the girl was considerably older. After two operations the author obtained a perfect result.

A Report of Ten Cases of Cesarean Section.—Charles L. Ill (*Am. Jour. of Obstetrics*, November, 1901).—The more interesting feature of this report is the fact that it contains the histories of three cases in which Cesarean section was performed on account of dystocia produced by ventrofixation of the uterus. In some instances the reasons given for the performance of abdominal section are decidedly objectionable. Thus in Case VII., first a trial was made with the forceps, then version performed, and finally—because the temperature of the septic patient rose to 102—the dead child delivered per Cesarean section. Patient died thirty-six hours after operation. All the other patients operated upon recovered.

Critical Remarks on Dystocia Caused by Vaginofixation of the Uterus.—Wilhelm Ruehl (*Monatschr. fuer Geb. und Gyn.*, October, 1901).—In this paper an effort is made to save the honor of this operation, which nowadays is looked upon with some contempt. The author is struck by the fact that in nine cases only—this being the number on record—performance of Cesarean section became necessary in order to overcome the dystocia, whereas in hundreds of other cases

delivery subsequent the same operation was spontaneous. After the fundus of the uterus has been firmly fixed to the vagina, the following abnormal conditions should theoretically be expected during confinement: Extremely low position of the fundus uteri, very high position of the cervix, retroposition of the cervix and extreme stretching of the posterior wall of the uterus, the anterior wall at the same time being extended only in a slight degree. In the majority of cases these abnormalities have been found, which, however, have slightly interfered with the course of delivery. By a critique of the histories of the nine cases in which Cesarean section was performed the author tries to prove that vaginofixation itself can be made responsible for the unfavorable result in only two of the cases, while various secondary conditions and operations militated against a favorable outcome of the other seven. In conclusion, the author states that even in very severe dystocia a median incision of the anterior lip and uterine wall will be found sufficient to avoid Cesarean section.

Clinical Observations on Carcinoma of the Uterus.—W. Beckmann, St. Petersburg (*Zeitschr. fuer Geb. und Gyn.*, vol. xlv., 1901).—In this article are given clinical observations made in 226 patients suffering from inoperable carcinoma of the uterus or recurrence after operation. The article contains a great number of noteworthy points, the most interesting of which are the following: The majority of the patients were between forty and sixty years of age, three-fifths being in the climacteric. There were only two patients younger than thirty, none under twenty. These 226 patients had borne 1161 children—*i. e.*, an average of more than five births per patient. Only 5.4 per cent. were non-parous; again 11.3 were confined more than seven times. These figures seem to confirm the observation that susceptibility to carcinoma is increased by a more intensive sexual life. The first symptoms observed were: Irregular hemorrhages in 79 per cent., vaginal discharge in 12 per cent., menorrhagias in 4 per cent., pain in 5 per cent. There was in 10 per cent. an absence of any large hemorrhage during the whole course of the disease. Regarding the pain, the writer states positively that in patients suffering from recurrence after operation the pain was more severe and it was more difficult to relieve them than in unoperated cases. In 55 per cent. the vagina was affected by the disease. Often the disease was diagnosticated in women who were well nourished and apparently pictures of health. Exitus letalis was due to disease of the kidney in 71 per cent., to cachexia and marasmus in 13 per cent., to intestinal symptoms in 14 per cent., to incidental complications (apoplectic insult, endocarditis, etc.) in 2 per cent. The duration of the disease in unoperated cases was on an average from one to two years; only a few lived longer than two years. In operated cases the duration was from two to three years. The figures obtained show clearly that operation prolongs life.

In the inoperable cases the author had the best results when he did not touch the carcinoma at all. Even palliative operations should be done only if necessitated by hemorrhages. He provides free drainage of the secretion by often repeated vaginal douches with solutions of bichloride, potassium of permanganate or creolin. The treatment of most of the other symptoms is limited to a considerate use of morphine.

Carcinoma, Pregnancy and Labor.—S. S. Cholmogorow, Moscow (Abst. *Centralbl. fuer Gynaek.*, November 16, 1901).—The author advances the following rules: 1. In cases of operable carcinoma of the cervix in an early stage of pregnancy, vaginal panhysterectomy should be performed. 2. If the pregnancy is as far advanced as to the sixth, seventh or eighth month in cases of operable carcinoma of the cervix, the child should be removed by means of vaginal Cesarean section (after *Duehrssen*) and the uterus extirpated *per vaginam* at the same time. 3. In cases of operable carcinoma at full term, abdominal Cesarean section should be performed and the uterus extirpated at the same time *per abdomen*.

4. In all operable cases the uterus should be removed through the vagina immediately after spontaneous or instrumental delivery. 5. In cases of inoperable carcinoma at full term, Cesarean section after Porro should be performed (the extirpation of the uterus being advisable on account of the non-aseptic condition of the patient). If in cases of inoperable carcinoma the child is not yet viable, Cesarean section after Porro should be postponed to the end of pregnancy.

PEDIATRICS.

Intrauterine Rickets.—ABBOTT (*Ped.*, December 1, 1901).—The conclusive cases of rickets in utero are still very few. Undoubted cases have been reported by Barlow and Makins.

The author's case was fourteen months old when first seen. Her length was only twenty-one inches, and she weighed seven pounds six ounces. She died shortly after admission to the hospital. The prominent symptoms were: Large cranium, but no frontal or parietal bosses; the sutures open, sternum prominent, chest grooved, rachitic rosary, abdomen full and prominent, the clavicle greatly curved, the humeri also curved, and great thickening of the lower ends of the radius and ulna.

The femora gave one long curve, and the right leg showed a tremendous curve. The feet were in position of extreme varus. The child had always been weakly. The bones were soft to an extreme degree. All could be visibly bent.

The baby was one of twins, and the mother is very definite that the girl's legs at birth were "quite the same as they are now." The twin brother is very much like the girl. From a consideration of the history and condition of the bones the author concludes this to have been a case of true intrauterine rickets.

A Case of Secondary Anemia with Splenic Tumor.—MARSE (*Ped.*, December 1, 1901).—The writer reports a case of anemia which in its clinical history very much resembled the anemia infantum pseudo-leukemia. The patient was a female, one of twins, and nine months old. She was fairly developed and nourished, but there was moderate pallor of the skin. The liver was slightly and the spleen very much enlarged. Blood examination: Hemoglobin, 40 per cent.; red-blood corpuscles, 4,000,000; leucocytes, 18,750; small mononuclear, 34 per cent.; large mononuclear, 12.6 per cent.; polynuclear neutraphiles, 51 per cent.; eosinophiles, 0.2 per cent.; myelocytes, 1.8 per cent.

Under the administration of modified milk, beef-juice, oil, malt and iodide of iron the patient rapidly improved. The spleen rapidly diminished in size.

The cause of the condition in this case was the feeding of a very dilute milk mixture. No digestive disturbance existed.

The author claims that there is nothing specific in the so-called splenic anemia.

Primary Intestinal Tuberculosis in Children.—BOVAIRD (*Arch. Ped.*, December, 1901).—The question of the relation between human and bovine tuberculosis has been brought so prominently before the world by the recent address of Prof. Koch that it seemed to the writer of interest to present certain relevant data which he had been collecting for several years.

It must be admitted that fifteen to twenty per cent. of all cattle are tuberculous, and at the same time that the danger to children lies in milk contaminated or infected from tuberculous lesions of the udder, and that such udder disease is limited to from three to five per cent. of tuberculous cattle. Simple arithmetic would show that the milk of at most one per cent. of all cows is capable of pro-

ducing tuberculosis. But a single cow may contaminate the milk of a whole herd.

Various investigators have found two to twenty-five per cent. of samples of milk to contain tubercle bacilli. The digestive fluids, however, may destroy the bacilli; yet it must be admitted that the milk of tuberculous cattle is capable, when ingested, of producing tuberculosis in susceptible animals.

There is great scantiness of evidence available that tuberculous milk has produced tuberculosis in children. He has found only twenty-two cases recorded in which the relation between tuberculosis and tuberculous milk is fairly clear.

In the study of various reports he finds that the Germans find four per cent. of primary intestinal tuberculosis, the French none, the English eighteen per cent., and the American writers one per cent.

He concludes as follows:

1. That English reports alone show any considerable number of cases of primary intestinal tuberculosis.

2. That primary intestinal tuberculosis is a very rare affection among the children of New York, little more than one per cent. of the cases of tuberculosis having this origin.

3. That the proportion of tuberculous cases found at autopsy in New York is lower than that of European observers.

4. That the evidence connecting tuberculosis among children with the consumption of milk of tuberculous cows is very scant.

A Note on the Little Finger of the Mongolian Idiot and of Normal Children.—West (*Arch. Ped.*, December, 1901).—Five years ago Telford Smith called attention to a peculiarity in the shape of the hand which existed to a greater or less extent in nearly every case of Mongolian idiocy, and consisted of a marked outward bowing or curving of the little finger. After a careful examination of 605 children the author concludes that 19.6 per cent. show a marked curve, 32.9 per cent. show a distinct curve, 28.9 per cent. a slight curve, and only 18.5 per cent. are perfectly straight. He finds the proportion in the Mongolian idiots about the same.

Ulceromembranous Angina Associated with the Fusiform Bacillus (Vincent); **A Report of Twelve Cases in Children.**—Sobel and Herrman (*N. Y. Med. Jour.*, December 7, 1901).—In six instances the ulceration was found on the right tonsil, in four cases on the left, and in two on both. The size varied from the nail of the little finger to involvement of the greater part of the tonsil. The shape was mostly irregularly circular and oval. As to its character, the term "chancroidal" seems most fitting. Except for a necrotic base, it looks like a "punched-out" ulcer. The tonsillar inflammation is usually very moderate; when more marked the ulcer appears somewhat deeper and the destruction of the tissue is greater. Only at its incipiency does it appear membranous; but even then, if a swab is applied directly against the lesion, the tissue will give way and the swab will enter a cavity. The color in different cases is either yellowish, greenish-gray or a dirty light brown; but all have in common the sloughing base with the level or slightly raised edges.

In all cases there was some elevation of the temperature (101° to 103.4°).

The submaxillary glands were enlarged except in two cases. The symptoms are usually entirely local—pain and difficult deglutition.

Clinically it differs from diphtheria, in that it is an ulcerative process, in the absence of tendency to spread beyond the tonsil, and in the usual absence of asthenia and constitutional symptoms.

The principal reliance must be placed in the microscopical appearance. Carbol-fuchsin, diluted, is the best stain.

The characteristic bacillus is about twice as long as the Klebs-Lœffler ba-

cillus, and is fusiform. Some are bent so as to form a crescent. They vary somewhat in size. It is motile. It has no spores. It is decolorized by Gram.

The spirilum associated with them is long and cork-screw-like. It is motile. It is decolorized by Gram. Little reliance can be placed on cultures, as they are cultivated with difficulty. In the way of treatment, they recommend the local application of Lugol's solution.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Brain Symptoms in Carcinoma.—ALFRED SANGER (*Neurologisches Centralblatt*, December 1, No. 23, 1901).—In 1888 Oppenheim and Bettelheim published cases of carcinoma in which were present definite localized cerebral symptoms. The autopsies showed no pathological change sufficient to explain these symptoms. The theory was advanced that the toxins, originating from the new growths, caused the symptoms, but were not sufficient to produce anatomical changes. The author of this article believes that this assumption is wrong, and that a more careful microscopical examination will reveal a sufficient anatomic basis for the causation of the symptoms. In support of this he gives the clinical history of a case of mammary carcinoma, in which a right-sided facial and abducens paralysis with bilateral deafness existed. The post-mortem examination showed no pronounced focal alteration in the brain, but a very well-marked carcinomatous meningeal infiltration. In the tissue surrounding the blood vessels carcinoma cells in great abundance could be demonstrated. The author further examined the clinical histories of one hundred and twelve cases of carcinoma, in nine of which nervous symptoms were found. Definite cerebral symptoms were not found in any of them. The following conclusions are advanced by the author: Cerebral symptoms in carcinoma can be divided into two classes: I. General symptoms. These are shown by coma, apathy, dementia Anatomial findings are not present. The symptoms are probably toxic in origin. II. Focal symptoms: *A*—No microscopial findings. In these cases there are probably carcinomatous metastases in the meninges or changes which are not evident by our present methods of investigation. *B*—Microscopical findings: (*a*) Tumor metastatic masses of various sizes. (*b*) Softening by hemorrhage without metastases. General and focal symptoms can be combined in the same case

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Certain Mental Changes that Accompany Visceral Disease.—HENRY HEAD (The Gulstonian Lecture for 1901, "Brain," part iii., 1901).—This is a very important contribution to the work already done on the same subject by Head. The main thesis advanced is that grave mental disturbances may arise in connection with visceral disease, based on the assumption that our mental well-being is dependent on the right activity of our internal organs. The following five causes are noted as being of importance: 1. A disturbed activity of the heart may alter the character of the blood with which it is supplied. 2. Disease may attack some organ which in health produces a substance necessary for the normal activity of the tissues. 3. Disease may attack some excretory organ, and thereby lead to the retention of toxic agents in the blood. 4. Disease may so lower the resistance of the nervous system that a poison, such as alcohol, already circulating in the blood, can produce mental changes differing in quality and intensity from those which would have been produced by the same poison under other circumstances. 5. Lastly, disease of the viscera may so lower the patient's resistance that some inherent mental tendency

may become manifest as in active mental disease. Disease of the internal organs is accompanied by pain radiating around the surface of the body and by tenderness of its superficial coverings. Changes in consciousness may be produced by the intrusion of such stimuli upon the nervous system. It is the purpose of this investigation to bring out the changes in consciousness mainly associated with the reflected pains of visceral disease. These mental changes are sometimes recognized by the patients themselves, and are associated by them with the first appearance or progress of their disease. The material for this study was furnished by patients in general hospitals, especially those suffering from pulmonary, cardiac and abdominal disease. Insane and nervous patients or those with a marked nervous heredity were excluded. The changes that may accompany visceral disease are: First, hallucinations, either of vision, hearing, or smell; second, moods. By mood the author means a state of mind in which consciousness is dominated by feeling, but where the resultant state is not projected. An emotion is a state of mind in which projection is always present. Under moods are noted sense of ill-being and exaltation. When the depression has been frequently repeated or has lasted a considerable time, an abnormal state of suspicion is likely to arise in the mind of the patient. The causes underlying all these psychical states are considered in great detail, and the conclusion seems justified that they are associated with the presence of pain of a reflected visceral type. Ten clinical histories are added which illustrate very clearly the main propositions advanced. This paper is earnestly recommended to every one who is at all interested in this important subject, and an abstract can only hint at the wealth of newly discovered facts contained in it.

Definition of Hysteria.—Babinsky (*Societie de Neurologie de Paris*, November 7, 1901).—In a very interesting discussion on hysteria, Babinsky brings forward certain facts relating to the general conception of hysteria, and gives the reasons why a definition of this disease presents so many difficulties. Lesegue has declared that it is impossible to define hysteria, and that no satisfactory definition will ever be proposed. This would mean, if true, that hysteria is not distinguished from other nervous diseases by any characteristic group of symptoms and that therefore it should be taken out of the nosology of medicine. In order to formulate a satisfactory description of hysteria, it is necessary to determine the characteristics which are frequently observed in the disease and which exclusively belong to it. If the more important symptoms, which are commonly observed in hysteria, be considered, for example the nervous attacks, the paralyses, the contractures, and the anesthesias, it is found that although they have certain attributes common to each other, they as a class have nothing that distinguishes them from any other group of symptoms. As a class they are purely functional—that is, mental in origin; but symptoms similar to these and also of mental origin are found in many organic diseases. It is generally supposed that symptoms purely hysterical in origin can be provoked by purely psychical causes, and that they can appear under different forms in the same subject, and that they do not seriously affect the general nutrition or mental state of the individual affected. Though this group of symptoms may be considered characteristic of hysteria, yet they are not solely found in this disease, but are frequently present as accompanying symptoms of organic nature. The special characteristics of hysterical symptoms is their reaction to suggestion. This is true of all hysterical symptoms and is not true of the same symptoms to the same extent found in other diseases. As a result of this special quality in hysterical symptoms Babinsky has proposed the following definition: Hysteria is axpsychical state which renders the individual attacked by it capable of autosuggestion. It shows itself principally by two groups of symptoms: a primary and a secondary group. The characteristic of the primary group is that it can be reproduced by suggestion with great exactness, and that it can be made to disappear by the influence of

persuasion alone. The characteristic of the secondary group is their strict subordination to the primary symptoms.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. Johnson, M. D.

Ureteral Anastomosis — Report of a Successful Case.—Turner (*Annals Surgery*, December, 1901).—While performing vaginal hysterectomy for prolapse of uterus and bladder, Turner divided the left ureter two inches from the bladder. Owing to the elongation of the ureters, due to the procidentia, he had room to work through the vagina in doing the anastomosis, but while attempting the Van Hook method the proximal end of the ureter was accidentally split for half an inch, thereby increasing the interval between the ends, and augmenting the difficulty of uniting them. As the upper segment was already split, he reversed Robinson's method, and implanted the lower into the upper segment by passing sutures through the lower, thence through the upper segment, pulling the former into the latter, and tying the traction sutures. After reinforcing the joint with five sutures, he covered it with peritoneum. The vagina was packed with gauze. Eight hours after the operation the catheter obtained eight ounces of urine. The patient made an uninterrupted recovery, and was well one year afterwards.

Contribution to the Surgery of True Cystic Kidney.—Nemack (*Annals Surgery*, December, 1901) reports the following case: A woman, forty-three years old, of neurasthenic disposition, upon examination showed a smooth, kidney-shaped tumor below the liver, freely movable, slightly tender, and a trifle larger than a normal kidney. The patient was unaware of the condition, but admitted irregularity of urination, with a dull ache in the right side. Three months later she developed chills and fever, accompanied by pain below the liver, suggesting a septic process. The tumor was twice its former size, and nearly transverse in the abdomen. On its surface were several elevations of nearly walnut size. Four days later, through an exploratory incision, the other kidney appeared to be normal. The left kidney was then removed. Five hours after the operation two ounces of clear urine, specific gravity 1.010, was obtained. The next day thirteen ounces was voided spontaneously; twenty-six hours later vomiting and decided oliguria appeared, and the patient died in coma sixty-two hours after the operation. No post-mortem. The author suggests that the cause of death was a condition of the other kidney similar to the one removed, and that if a nephorrhophy had been done at the time of the first examination, the left kidney would probably have escaped disease.

As nephrectomy in these cases is a procedure of very doubtful value, what shall take its place? The author suggests removing the twist, splitting the kidney to the pelvis, stitching the organ in position, and draining with gauze.

[It is to be regretted that microscopic examination of the kidney removed is not reported, as this case is probably cysto-sarcomatous.—Ed.]

Congenital Absence of the Abdominal Muscles, With Distended and Hypertrophied Urinary Bladder.—Osler (*Bulletin Johns Hopkins Hosp.*, November, 1901).—Two similar cases only can be found in literature: one reported by Parker, and one by Gutherie.

Parker's case (Clin. Soc. Trans., vol. xxviii., 1895), was a newly born infant in which the abdominal wall was as thin as parchment. The baby died not

long after birth. There was enormous hypertrophy of the bladder, which was situated wholly within the abdominal cavity. There was no obstruction anywhere in the urethra or prepuce. The opening of the ureters into the bladder was quite free. The ureters and pelvis of the kidneys were greatly dilated and hypertrophied.

Gutherie's case (Pathological Soc., London, Trans., vol. xlvii.) was of a male infant, aged nine weeks. Between the pubes and the umbilical scar there was a long, smooth, elastic tumor. The abdominal walls were excessively thin and loose. The ureters could be felt as dilated and convoluted tubes on each side, so much resembling distended intestinal coils that they were mistaken for the latter during life. The child died within ten weeks. The bladder reached as high as the navel, and its walls were over one-quarter of an inch thick. The ureters were dilated to the size of the small intestines, and were tortuous. No stricture of the urethra, no phimosis. The kidney pelves were dilated, but the kidneys were not enlarged. The bladder was closely adherent to the umbilical scar.

The author's case: The child was well until the second summer, when gastric attacks of nausea and vomiting began. From the history of the case, in some of the attacks the chief trouble was with the urine. The spells lasted four or five weeks at a time. The present crisis showed pains in the abdomen and burning upon urination. The very weak, anemic, poorly nourished child complained of pain in the hypogastric and lower umbilical regions; passed urine fifteen or twenty times daily, and had a temperature ranging between 99° and 102°. There was remarkable fullness in the hypogastric and lower umbilical regions, with an ovoid mass corresponding to a dilated bladder. In the recumbent position the belly flattened out in front and extended in the flanks. Coils of intestines could be seen in peristalsis. There was extreme relaxation of the abdominal walls and the organs underneath could be easily palpated. It was possible to feel the whole extent of the liver. The bladder reached almost to the navel. He has cryptorchidismus.

Prostatic Calculus Removed Through Perineal Section.—LEVISON (*Boston Med. and Surgical Journal*, December 5, 1901).—There are two kinds of prostatic calculi; essential and adventitious. By the essential is understood the concrement which develops spontaneously within the prostatic tissue and having no connection with the urethra. The adventitious form is frequently the result of some substance (uric acid crystals or vesical calculus) dropping into the prostatic sinus and becoming encysted. This body, acting as a nucleus and increasing in size, eventually breaks through the urethral wall. Most old and even young prostates contain minute prostatic concrements corresponding to the corpora amylacea. Prostatic calculi of adventitious origin are not at all frequent. Their chemical composition differs materially from the essential variety in being made up of the urinary salts about a nucleus of some kind. The essential form most often remains unrecognized, and unless it encroaches upon the *pars prostatica urethræ* it is only of pathological interest.

In the case reported by the author the first impression was of stone, but as the examination was continued he became less positive about it. The patient was thirty-five years of age, with a history of cystitis of gonorrheal origin, seven years' standing, and complained much of pain in the perineum, vesical tenesmus, frequent urination, pain in the back, etc. Quantities of pus were noted in the urine. The cystoscope showed a prostate as usually seen in old men. Rectal examination revealed an enlarged prostate with indurated lateral lobes. The middle lobe conveyed an impression as if of stone lying imbedded in prostatic tissue.

Diagnosis was made of concretion in the middle lobe with inflammatory enlargement of the lateral lobes. A horseshoe incision was made in the perineum

and careful dissection between the rectum and bladder brought the prostate nicely into view. The calculus was removed through an incision into the gland. A small part of the surrounding infiltrated tissue was enucleated. The wound was closed with gauze drainage, convalescence was practically uninterrupted, and the pain and tenderness disappeared. The calculus weighed 6.0 gm., and should be classed in the essential variety.

The Bottini Operation.—HORWITZ (*Phil. Med. Jour.*, November 30, 1901) considers the present status of the Bottini operation based upon 888 operations by 48 operators.

The results may be summarized as follows:

Improved and cured	84.3 per cent.
Unimproved	10 per cent.
Deaths	5.7 per cent.

Of 453 cases of which there is accurate information, the percentage of cures was 47.2 per cent.

The fact that out of the 888 unselected cases 715 of the number were either cured or improved, the mortality being 5.7 per cent., confirms the statement that the results of these operations have been to place this procedure upon a firm basis.

The Indications for Operation in Calculus Nephritis and Ureteritis.—LEONARD (*Jour. Am. Med. Asso.*, November 30, 1901).—More than half the calculi that originate in the kidney pass into the ureter before they occasion sufficient symptoms to make their presence known. While it is probable that many small calculi remain in the urinary tract throughout life without causing notable symptoms or impairing the kidneys, on the other hand, they may entirely destroy the function of one kidney without the recognition of the fact by the patient.

It is the Roentgen method that has shown the greater frequency of ureteral calculi, and that has enabled us to adopt a more conservative way of dealing with them. For by this method the calculus and kidney can be watched, and when damage is impending, operative procedures can be employed. It is as reliable for positive as negative results. If the skiagraph shows the kidney to be hydronephrotic or pyonephrotic, and tenderness can be elicited over the organ, they make more probable the subsequent passage of the calculus. It is an indication of the functional activity of the kidney and of a *vis-a-tergo*.

The employment of all exploratory instruments in the male, when there is no infection, is to be avoided. The segregator, the cystoscope, the vesical sound and the ureteral catheter are all valuable instruments for diagnosis, but their use in aseptic cases is a question still *sub judice*.

In the female the indications for the Roentgen method are not quite so definite, as the ureters are more accessible, and comparatively simple operations often hasten the passage of the calculi; also, it may detect phleboliths in the venous plexus of the broad ligaments, in the veins of the vaginal wall, and other pelvic veins. Although the phleboliths can generally be differentiated, at times it is difficult. Thus, the wax-tipped catheter, hydronephrosis, pyonephrosis, or enlarged kidney may lead us to the diagnosis of calculus.

The Roentgen method has led to modifications in the operative procedures. The location of the calculus being clearly shown, it is possible to cut directly down upon it, thus avoiding exploratory incisions into the kidney substance for other stones.

This method shows not only the location, but the number of calculi, so that we are sure when we have removed all of them. It also shows the absence of calculi in the other kidney, giving us valuable information should it be necessary to remove one kidney. A stone may be removed from the ureter directly

either transperitoneally, retroperitoneally, transcystic with suprapubic cystotomy, or the ureter may be opened through the vaginal vault.

In cases of sudden anuria, the necessity for immediate operaion is urgent, and the wrong kidney must not be selected. The symptoms are too often misleading. It is here that the value of the Roentgen-ray is readily appreciated, the calculus is detected and the operation directed accordingly. If the outlines of the kidneys can be shown, the enlargement of one or the other will guide the operator to which kidney must be operated upon first.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Report of a Case of Idiopathic Multiple Sarcoma of the Skin.—KOEHLER and JOHNSTON (*Journal of Cutaneous and Genito-Urinary Diseases*, January, 1902).—The writers state that cases of multiple cutaneous sarcomata are rare, but in spite of their infrequency quite a number of clinically different varieties have been described. Histologically, they show no great diversity, and they may be divided into spindle-celled (fuso-cellular) and round-celled (globo-cellular). Unna also described a giant cell sarcoma. Unna, in his book on the "Histo-Pathology of the Skin," gives the following five varieties of multiple sarcomata: Sarcoma multiplex cutaneum durum album, sarcoma multiplex cutaneum durum pigmentosum, sarcoma multiplex cutaneum molle, sarcoma multiplex cutaneum gummatodes, acrosarcoma multiplex cutaneum teleangiectodes.

The case described by the writers resembles the description of the first variety closely, even to the absence of pigment. Unna regards the fuso-cellular variety of sarcoma as the main type of the cutis proper. The patient was a man of fifty years; noticed the eruption in 1899 for the first time, appearing on the lower extremities and extending over the trunk and face. The nodules ulcerated at times, although the tendency to this seemed very slight. Arsenic treatment did not give much relief. Microscopic examination of the tumors showed them to be somewhat different from the usual run of skin sarcomata The process began in the lower reticular layer and upper hypoderm. It did not invade the papillary layer, and seemed limited by the lower level of the coil-glands beneath. There was a striking absence of pigment in the growth, and there was also no reactive inflammation of vessel dilatation. In the peripheral portions there was a close packing of spindle cells. There are but few patent blood vessels in the growth, but in spite of this there was no necrosis. The tumor, in short, was a small spindle-cell sarcoma, with which occurred such endothelial proliferation as to strangle the sarcoma element in the older portion. It was free of pigment, hemorrhagic or metabolic, and belonged to the class of sarcoids, constituting a new type, but nearly allied to multiple hemorrhagic sarcoma.

An Extraordinary Case of Quinine Susceptibility.—STELWAGON (*Journal of Cutaneous and Genito-Urinary Diseases*, January, 1902).—Cases of eruptive phenomena from the ingestion of quinine preparations are common enough in literature and fairly well known, and therefore the publication of new instances is probably only justified by some unusual feature, or for the purpose of calling attention to the possible confusion of some of these rashes with the exanthemata. The case described by the writer is especially striking on account of the smallness of the dose necessary, the many ways in which the drug surreptitiously, so to speak, gained access, and the uncomfortable results which followed. The patient, a

gentleman of middle age, healthy, has had something like twenty-five attacks of scarlatiniform erythema, followed by branny and lamellar and sheet-like desquamation, with more or less accompanying itching, and running a course of several weeks.

The history of these attacks is interesting, as it was noted that on every occasion that the patient had imbibed quinine in any form he had an attack of the eruption. He took small doses of quinine once for malaise. Straightway an attack of the eruption occurred. When the eruption was over he took a tonic containing quinine to build him up, whereupon another attack of the eruption recurred. And so on, every time he took quinine, calisaya or any of its derivatives he suffered with this skin eruption. The use of a tooth-wash containing an infinitesimal amount of quinine superinduced an attack, as did the use of a quinine lotion on the hair.

The patient's life has been made miserable on account of his great susceptibility to quinine. He stands in mortal dread every time he consults a strange physician, fearing that he will not properly consider the question of susceptibility to quinine. Even when he has no fears on account of good health he is in danger of using a tooth-powder or wash containing quinine.

Strange to say, the patient stated that but a few minutes elapse after he has taken the drug before he feels a flush go over the entire surface of the body, and he always knows at once that the mischief has been done. His nails have always been unaffected.

Circumscribed Lymphangioma.—A. FALLER (*American Medicine*, December 28, 1901).—A. Faller gives a brief description of a case of circumscribed lymphangioma including the appearance of the pathologic lesion under the microscope. The author refers to some of the prevalent views in regard to the etiology of this affection, and also mentions the usual therapeutic measures employed. Reference is made to the literature upon the subject.

The individual suffering from the disease is described as an idiot, male, about thirty years of age, well nourished, muscular. He has complete anesthesia of the skin and has a large scar on the right side of the scalp. Under this scar the bone crepitates on pressure. No history could be obtained beyond the statement of the keepers of the patient that he has had the skin affection for many years. The lesion consists of an area extending several inches over the left scapular region covered with vesicles varying in size from a pin's head to a pea. The vesicles in the central portions are verrucous-like and dark red, those towards the periphery being clear and tense; the latter are more numerous than the former. Some of the clear vesicles also show telangiectatic capillaries, while others show that the blood has extravasated and settled in the most dependent parts. Pressure reduces the vesicles to the level of the surrounding skin. In some places the lesion resembles herpez zoster and in other places hydrocystoma. Under the microscope the epidermis appears normal; while the papillary layer presents the characteristic lesions. The upper part of the corium is everywhere occupied by dilated lymph vessels, communicating freely with lymph spaces. The lymph vessels and spaces are lined with endothelium resembling that of normal vessels. The capillaries are also dilated and ruptured in some places. The middle layer of the cutis is not much involved, but the deeper layer shows angio-cavernous spaces near the sweat glands. The sweat glands also show some degree of hyperplasia. The hair and sebaceous glands are not much involved.

LARYNGOLOGY AND OTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

A New Method of Treating Hay Fever and Kindred Affections.—EMANUEL FINK (*Deutsche Medicinische Wochenschrift*, November 14, 1901) states that all affections of the nose coming under the head of coryza nervosa, as hay fever, hydrorrhea nasalis, etc., are due to an affection of the trigeminus involving principally the secretory fibers of the accessory cavities of the nose, the antrum of Highmore being the main seat of the trouble. The author claims to have been able to effect a cure in eleven cases treated by dusting aristol into the antrum by means of a small cannula introduced through its natural opening in the nose.

A brief history of five of the cases so treated is given, viz.:

CASE I.—O. S., aged sixteen years, clerk; was first seen on June 12, 1898. He had an attack of hay fever the year before, which began in June and lasted until the latter part of July. On the 2d of June, 1898, the second attack came on, but was very mild at first, but by the fourth was quite severe. After four insufflations of aristol the attacks ceased.

CASE II.—K. J., student, aged twenty-three. Has had hay fever during the past twelve years. He had been treated in various ways without avail. The attacks were typical—began in June and lasted until the latter part of July. He complained first of a tickling sensation of the palate, then would sneeze fifty or sixty times, followed by a burning sensation, tearing of eyes, and a profuse discharge from the nose lasting for hours, and, if he remained out-of-doors, the attacks would be accompanied by asthmatic symptoms. Marked improvement followed the first insufflation of aristol, and after six insufflations the patient was discharged, on June 20th, as cured.

CASE III.—Had attacks of coryza nervosa at irregular intervals, which began every third or fourth day, in the morning, with sneezing, and patient would sneeze as often as a hundred times. After the first insufflation the attacks did not recur for six weeks, and the interval grew longer following subsequent insufflations. During the past year there has been no recurrence.

CASE IV.—Man, aged twenty-five; has had coryza nervosa many years. Attacks came on every few days. Secretion only from right side. Marked improvement followed the first insufflation, which was given on October 5, 1899. On the second of November had another attack, and insufflations were then made several times with a three days' interval between each. The patient was seen again on May 16, 1900. He had no attack up to that time.

CASE V.—Seamstress, aged eighteen, has had hydrorrhea nasalis since her ninth year. The attacks always began with severe headache, weakness and nausea, followed by a paroxysm of sneezing, after which there was a profuse watery discharge from the nose. These attacks last for hours and sometimes days, and usually come on every two or three days. Once only did the attack remain away for four weeks, when she made a visit to "Vierlandin," but on her return the attack came on the same as before. After one insufflation of aristol the patient was cured.

Similar results were obtained in six other cases treated by this method. In only one other case the result was unsatisfactory, but this one was complicated by an empyema of the antrum of Highmore.

In conclusion he advises that the existing neurasthenia should also receive proper attention.

Sinusitis Nasi and Otitis Media Following Influenza.—INGERSOLL (*Cleveland Journal of Medicine*, October, 1901) notes the frequent involvement of the maxillary sinuses in influenza. The ethmoid cells are less often affected, and the sphenoidal cavities rarely. In those cases the pain is greater than in an ordinary sinusitis, and if the natural openings of the cavities become obstructed, it is excruciating. When the ethmoid or sphenoid cells are involved the danger of brain infection is great.

Transillumination of the cavities has not proved reliable, but a radiograph of the superior maxillary have usually shown an infected antrum to be much darker than a normal one. A maxillary empyema may be secondary to a frontal or ethmoidal sinusitis.

The treatment of acute sinusitis consists of rest, hot or cold applications externally, and the application of the solution of suprarenal gland to the turbinal tissues once or twice daily. If the cavity or cavities do not recover within ten days or two weeks under such treatment, a permanent opening should be made into the antrum, in antral cases, and the cavity washed daily with a normal salt solution. Then the vapor of camphor, menthol and boric acid, each ten grains, in an ounce of alboline, is blown through the antrum for a few minutes.

If they do not recover in three months, a larger opening should be made and the antrum curetted.

In chronic frontal sinusitis, the anterior end of the middle turbinate must be removed and the infundibulum enlarged, if necessary, to give free drainage and to permit irrigation.

In chronic ethmoiditis and sphenoiditis enough of the middle turbinate must be removed to permit a thorough curetting of these cavities.

Otitis media is a frequent complication of influenza. Sometimes localized hemorrhages are to be seen in the membrana tympani. Local application of cold and free purgation at the outset may prevent suppuration. A leech may be used if this does not relieve. Paracentesis should be done, if fluid can be seen. After paracentesis the secretion should be removed with small pledgets of cotton and the ear dusted (not packed) with some antiseptic powder.

Syphilis of the Nose and Throat.—E. B. GLEASON (*International Medical Magazine*, October, 1901).—The primary lesion of syphilis is rarely found in the nose. Secondary lesions of the nasal mucous membrane are analogous to and often coincide with those appearing on the skin. They vary from a mere erythema of the mucous membrane to intense hyperemia and swelling, with the presence of shallow ulcers, secreting an offensive muco-pus. During the tertiary period nasal gummata are by no means rare. They appear as irregular nodulated swellings, distending the mucous membrane of any part of the nose. A nasal gumma may be absorbed, leaving, in some instances, a characteristic cicatricial contraction, or it may break down and produce an ulcer, before which the cartilages and even the bony structure may melt away like wax as the ulceration raidly extends, thus producing in a marvelously short time the most hideous deformity. In aggravated cases the soft parts may also be involved in the process, until finally the anterior nares are represented merely by an irregular hole in the face.

Hereditary syphilis pursues the same course as the tertiary form of the acquired disease.

In primary syphilis of the pharynx, examination shows a whitish abrasion, soon followed by swelling of the glands about the angle of the jaw. Secondary lesions may present either the form of mucous patches or erythema, characterized by a diffuse redness of the entire fauces, or, more commonly in the milder attacks, by a broad red line extending upward upon each of the anterior pillars, and ending abruptly and symmetrically at the root of the uvula. These red lines are almost pathognomonic of syphilis, and persist for a long time after other

secondary lesions have disappeared. In secondary syphilis the larynx almost always becomes involved, so that the voice is hoarse, and there is present a short cough of a peculiar metallic character. Mucous patches and erythematous patches in the throat are usually symmetrical. Tertiary lesions do not so frequently present this symmetry. Gummata more frequently involve the tonsils or soft palate than any other part of the throat. When an ulcerating gumma is situated on the post wall of the pharynx, the cervical vertebra, or even the cervical cord itself, may finally become involved, and a fatal issue result. In such cases care must be taken to prevent union of the soft palate and uvula to the pharyngeal wall when the ulceration involves the post surface of the palate.

Syphilis of the larynx most frequently occurs as a manifestation of the tertiary period, three to thirty years after infection. As a manifestation of secondary syphilis, laryngeal symptoms may occur within a few weeks, or as late as two or three years after primary infection.

In secondary syphilis, the laryngeal lesions may consist of a mere hyperemia, giving rise to the symptoms of simple laryngitis. Ulcerations may also be present, and are usually symmetric. Syphilitic warts or condylomata are also frequently found in the larynx during the secondary stage of syphilis.

Tertiary manifestations consist of gummata, which may break down and cause deep ulcerations, with perichondrosis and necrosis of the cartilages; while stenosis may result from cicatricial contraction after the healing of syphilitic ulcers.

In syphilis of the nose and throat constitutional treatment is of primary importance. The primary and secondary lesions are probably best treated by the internal administration of protiodide of mercury in pill form. Any ulceration on the mucous membrane should be touched every other day with the acid nitrate of mercury until they are healed. If in the nose, the ulcerations may be dusted with calomel. In tertiary syphilis the "mixed treatment" answers a very useful purpose. One, two or three teaspoonfuls of the following mixture (℞ Hydrarg. bichlor., gr. j; potass. iodid., ʒ ij; aqua, ʒ iij) may be given three or four times daily. Mercury may also be given hypodermically. From eight to twenty minims of a solution of bichloride, three grains to the ounce of water, should be injected into the cellular tissue of the back every day, or at less frequent intervals. A few injections are ordinarily required to limit the spreading of a gummatous ulcer, which speedily assumes a more healthy appearance. In cases where gummata are so situated as to cause obstruction to the nasal respiration, pain and intense headache, from pressure, the action of medicine is too slow and operative procedures must be resorted to. A gumma may be removed from the turbinate bone with the snare, or scraped from the septum with a large nasal curette.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Ocular Lesions of Small-Pox.—E. JACKSON (*Denver Med. Times*, December, 1901).—Small-pox is at present responsible for 1.41 per cent. (United States) to 12 per cent. (Russia) of all blindness. Corneal lesions constitute the principal ocular complications. The severest manifestations occur in persons who have never been successfully vaccinated.

A common form is a greyish infiltration of the cornea, coming on with the subsidence of the cutaneous eruption, perhaps six weeks after the outbreak of the disease. The corneal surface is roughened, but there may be no actual ulcera-

tion. The lids are hyperemic and swollen: photophobia is intense. Recovery, usually with some permanent cicatrization of corneal tissue, may be expected under atropin and appropriate astringents.

A history of transient blindness during the attack, where subsequent inspection fails to reveal any damage to the eyes, is to be explained as due to intense swelling of the lids or agglutination by dried discharge. A variolous pustule of the cornea, occurring in the full bloom of the efflorescence, is extremely rare; the unfortunate cases of perforation leading to total destruction of the cornea are due to deep ulceration beginning after the twelfth day.

In view of the fact that the outcome is generally favorable, even with indifferent treatment, statistics of results obtained with so-called "specific" treatment—instillations of methylene blue 1–500 and subconjunctival injections of corrosive sublimate—are somewhat futile.

The Examination of the Eyes in Relation to Life Expectance.—Dr. Lentsheraf (*Med. Examiner*, December, 1901) insists that ophthalmology should play an important rôle in the "universal medical formulary" of life insurance examinations. Systematic examination of the eyes may lead to the discovery of antecedent diseases concealed by the applicant, may help to determine the "risks subordinated to the physical condition," and, in certain affections, may have a direct bearing on prognosis upon the eventual duration of life.

Affections of the lids, conjunctiva and lachrymal sack may indicate scrofulosis, rachitism, and certain intoxications. Corneal opacities suggest infectious disease: evidences of parenchymatous keratitis, syphilis or tuberculosis. Syphilis, tuberculosis, diabetes, gonorrhea, rheumatism and gout are etiologic factors in iritis, traces of which are usually discoverable in synechiæ and pigment flecks on the lens. Brain affections of syphilitic origin may be evinced by a mydriasis, a myosis, or abnormalities of pupillary reaction to light and accommodation. Ocular paralyses occur in tabes, bulbar paralysis, sclerosis, apoplexies: in certain infectious diseases—*e. g.*, syphilis, diphtheria, and may accompany lead, tobacco, alcohol and other intoxications.

Diminution of visual acuity not due to uncorrected refractive error or anomaly of accommodation, indicates lesion of the optic nervous apparatus. Optic atrophy and glaucoma give rise to peripheral contraction of the visual field. Choroiditis and retinitis to eccentric and disseminated scotomata. Neuritis and macula lesions to central scotomata. Hemianopsia is indicative of cerebral hemorrhage or tumor, uremia, lead poisoning.

Diabetes should be suspected in the presence of lenticular opacity. Atheroma is often accompanied by clouding of the vitreous. Syphilis, tuberculosis, brain tumor, and rheumatism may be causative factors in a neuritis or neuro-retinitis. Tabes and general paralysis are often first suspected on the appearance of an optic atrophy.

An albuminuric or diabetic may, by subjecting himself to a rigid diet, appear before the examiner with a urine free from albumin or sugar; in such cases an examination of the fundus may reveal the true state of affairs. With respect to prognosis, it may be said that a patient with albuminuric retinitis is in the gravest danger, the great majority dying within a year: fifty per cent. of diabetics with retinitis succumb within two years. Syphilitic iritis, irido-choroiditis, retinitis and optic neuritis indicate a profound infection of the organism, with the probability of the occurrence of cerebral accidents.

Frost-Bite of the Cornea.—Meierhoff (*N. Y. Med. Jour.*, November 30, 1901).—Meierhoff observed two cases of clouding of the cornea in young babies after the prolonged use of ice-cold pledgets. The suspected specific ophthalmia proved in each case to be merely a mild catarrh. The damage is thought to have been wrought by interference with the nutrition of the cornea. Dry, warm applications effected a cure.

BOOK REVIEWS.

THE PATHOLOGY AND TREATMENT OF SEXUAL IMPOTENCE. By VICTOR G. VECKI, M. D. Third edition, revised and enlarged. 12mo, 329 pages. Philadelphia and London: W. B. Saunders & Company. 1901. Cloth, $2.00, net.

The popularity of this work is shown by the fact that the first edition was exhausted in less than two years. This, the second edition, has been much improved by additional matter, especially in the way of treatment. The author discusses fully the etiology and treatment of those prematurely impotent, a large part of the book being devoted to the latter.

The function of introitus is regarded as so important to the welfare of man that the author recommends a unique mechanical device to support an otherwise weak and flaccid organ.

The work is well written, and is a careful and exhaustive treatise on the subject.

THE PHYSICIAN'S POCKET ACCOUNT BOOK. By J. J. TAYLOR, M. D. Consisting of a manilla-bound book of 208 pages and a leather case. Price, $1.00 complete. Subsequent books to fill the case 40 cents each, or three for $1.00. Published by the Medical Council, Twelfth and Walnut streets, Philadelphia.

This account book offers one advantages in that an account as entered is in ledger form, and no posting or transfer is necessary. A unique and valuable feature is a due-bill form at bottom of each page. We believe this to be the best pocket account book on the market.

A TEXT-BOOK OF SURGERY. By HERMANN TILLMANNS, Professor in the University of Leipsig. Translated from the seventh general edition by BENJAMIN J. TILTON, M. D., Instructor in Surgery, Cornell University, and JOHN ROGERS, M. D., Instructor in Surgery, Cornell University. Edited by LEWIS A. STIMSON, M. D., Professor of Surgery, Cornell University. Volume I., The Principles of Surgery and Surgical Pathology. With 516 illustrations. New York: D. Appleton and Company. 1901.

Tillmanns has for years held a leading place among those who write text-books for the students of Germany. With the single exception of Koenig's still larger work, no other is used to the same extent, and none, not even Koenig's, ranks with Tillmanns' in point of convenient arrangement and concise diction, so essential to the student's best interest. The present volume is handsome in appearance, contains eight hundred and fifty-one pages, and is illustrated profusely, many of the cuts being original. Indeed, it is refreshing to note that the author has cast aside many of the old stock pictures which have been copied from one book on surgery to another until novelty in this line had commenced to seem an impossibility. The chapter on wound-healing, together with its plates on the formation of new capillaries, cannot be too highly praised. Since the appearance of the first English edition of this book, it has enjoyed a measure of success sufficient to warrant the present edition, which is in reality a revision, made necessary by changes in the German original, chiefly in the departments of pathology and bacteriology. One cannot too highly commend the custom, copied from the Germans and the French, of dividing surgical text-books into separate volumes on principles and practice. No student is competent to take up understandingly the diseases of the special regions until he has mastered the

general fundaments of disease. How, for example, is a man to comprehend the treatment of inflammation of the appendix, until he understands inflammation in general? Tillmanns carries out this idea in his work. The volume before us for review contains the essentials of surgical pathology and bacteriology, general facts on diseases and injuries of the tissues with their treatment, tumors, general surgical technique and bandaging. As regards the illustrations of the surgeon's paraphernalia, we get from the work many of the German instrument-maker's ideas, and thus enlarge our field of view.

A MANUAL OF SURGICAL TREATMENT. By W. WATSON CHEYNE, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London; Surgeon to King's College Hospital, etc., and F. F. BURGHARD, M. D. and M. S. (Lond.), F. R. C. S., Teacher of Practical Surgery in King's College, London; Surgeon to King's College Hospital, etc. In seven imperial octavo volumes, with illustrations. Volume V., 482 pages with 145 illustrations. Cloth, $5.00, net. Lea Brothers & Co., Philadelphia and New York. 1901.

With this volume the exhaustive English work nears its completion. As a matter of course the present number is similar in style and appearance to its predecessors, which have been so widely and favorably commented upon. There has, in the tone of the special volumes, been a decided improvement over those earlier chapters which dealt with the general principles of asepsis etc.; the criticisms which were justly hurled at them by many reviewers, can by no means be said to apply to the volume at hand. Number V. will be of more aid to the general practitioner than have any of the others; the authors have, as it happens, taken up here many of the pathological conditions which the average doctor is called upon to meet, and at the same time many of the surgical procedures detailed in its chapters are of the scope of his endeavors. Thus the work being now essentially of treatment, it will readily be seen how well it must subserve the purpose of the busy man who has during his working hours little time for considerations other than those of therapeutical nature. Volume V. deals specifically with the congenital affections, inflammations, tumors, injuries of and foreign bodies in the nose, mouth, ear, pharynx, larynx, lips, face, scalp, skull, etc., and the entire book of 482 pages devoted to these matters in a way which is sufficiently exhaustive for all practical purposes. The illustrations, while not exactly samples of the highest that has been accomplished in the engraver's line, serve still to elucidate the subject-matter in a satisfactory manner.

A TREATISE ON SURGERY BY AMERICAN AUTHORS.—For Students and Practitioners of Medicine and Surgery. Edited by ROSWELL PARK, M. D., Professor of Surgery in the University of Buffalo, New York. New (3d) edition in one royal octavo volume of 1350 pages with 692 engravings and 64 full-page plates in colors and monochrome. Cloth, $7.00, net; leather, $8.00, net. Lea Brothers & Co., Philadelphia and New York.

This handsome volume is now appearing in the author's third edition in five years; a certain evidence that the work has not only stood the test of time, but at the same time won for itself the unqualified approval of the medical public. We have as matter of course plenty of men who are able exponents of the *art* of surgery, but as much cannot be said for the *science* of surgery; indeed, Park may be justly said to be one of the few whose work in this direction has distinguished him.

The book is intended to meet the wants of the student, the general practitioner, and the specialist as well. For the different subjects, Park has chosen authors who are known as masters in their respective fields, most of the general surgical pathology having been written by Park himself. The chapters on in-

jury and repair are contributed by Nancrede, and his name is a sufficient guarantee for their excellence. The two chapters on fractures and dislocations were from the pen of the late Henry H. Mudd, of St. Louis, making the work of especial interest to physicians of this city. Richardson wrote the chapters on the abdomen, Matas that on amputations, Lovett that on orthopedic surgery, and other surgeons almost if not quite equally well known, those on the other special subjects. The illustrations are certainly profuse both in quantity and quality; the sixty-four colored cuts are as fine examples of the art as one could wish to see. The size of the work is imposing, the style of binding is attractive, and the quality of workmanship employed as well as the texture of the paper, leave nothing to be desired. The fact that the whole is contained in one volume saves a great amount of time which would be spent in referring from one number to another; a matter which will be appreciated by the busy man. When one considers that he gets a book on general surgery as well as one on special surgery, the price does not seem great.

A Guide to the Instruments and Appliances Required in Various Operations. By A. W. Mayo Robson. Second edition. Two shillings and sixpence. Cassell & Company, limited, London, Paris, New York and Melbourne. 1900.

This little work from the hand of a master is of value to one who leaves all the preparations for an operation to a nurse or assistant. It is made up of lists of the various outfits required for the performances in the realm of surgery. It has sixty-two pages, is neatly printed and bound, and is of very moderate price.

The Physician's Visiting List for 1902. Fifty-first year of its publication. Philadelphia: P. Blakiston's Son & Co.

This handy little book will suffice for twenty-five patients per day or week, and sells for the low price of $1.00 per copy. Each entry is ruled for the following items: name, date, amount paid, ledger page, and special memoranda. In fact, it furnishes a convenient form for keeping the doctor's accounts.

A Laboratory Hand-Book of Physiologic Chemistry and Urine Examination. By Charles G. L. Wolf, M. D., Instructor in Physiologic Chemistry, Cornell University Medical College, New York. 12mo volume of 190 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company. 1901. Cloth, $1.25, net.

This book, which is primarily intended for students and practitioners of medicine, is admirably adapted for the purpose. The text is clear and concise, and only such tests are given as are generally needed, and can be easily carried out by the practitioner. It is to books of this character that we must look as an educator for accurate diagnosis. It is carefully printed.

First Aid to the Injured and Sick. By F. J. Warwick, B. A., M. B. Cantab., Associate of King's College, London; Surgeon-Captain, Volunteer Medical Staff Corps, London Companies, etc., and A. C. Tunstall, M. D., F. R. C. S. Ed., Surgeon-Captain Commanding the East London Volunteer Brigade Bearer Company; Surgeon to the French Hospital and to the Children's Home Hospital, etc. 16mo volume of 232 pages and nearly 200 illustrations. Philadelphia and London: W. B. Saunders & Co. 1901. Cloth, $1.00, net,

The small volume which is here reviewed has as its purpose the instruction of members of the laity who may be called upon to take care of a sick or injured

individual until the doctor comes. There can be no doubt of the value of such instruction; intelligent "first aid" can do an immense amount to supplement the professional man's later work, while the opposite kind can result in the patient's undoing. The book at hand is so simply written as to be intelligible and consequently useful to the average individual; the little work is not for the general laity alone, but may be used with good effect by nurses, and the employees of factories, the running of which is attended with especial and peculiar dangers to its operatives.

A Text-Book on Diseases of the Nose, Throat and Ear. By Charles H. Burnett, M. D., E. Fletcher Ingals, M. D., and James E. Newcomb, M. D. With numerous illustrations. J. B. Lippincott Company, Philadelphia and London. Price, $5.00.

This work is divided into three parts. Each part is written by a practical teacher, and presented in a concise but thorough manner. It is indeed a satisfactory work for the practitioner as well as the student.

Progressive Medicine, Vol. IV., 1901. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 400 pages, 13 illustrations. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Co., Philadelphia and New York.

It is nowadays generally recognized that *Progressive Medicine* brings the most complete and consecutive synopsis of medical progress in every special field. The latest volume gives additional justification for this statement. It contains the following reports: Diseases of the digestive tract and allied organs, the liver, pancreas and peritoneum, by Max Einhorn, M. D. Genito-urinary diseases, by William T. Belfield, M. D. Anesthetics, fractures, dislocations, amputations, surgery of the extremities, and orthopedics, by Joseph C. Bloodgood, M. D. Diseases of the kidneys, by John Rose Bradford, M. D. Physiology, by Albert B. Brubaker, M. D. Hygiene by Henry B. Baker, M. D. Practical therapeutics referendum, by E. Q. Thornton, M. D.

Special attention may be called to Bloodgood's article on anesthetics, which is by no means a mere review, but a most interesting monograph on the modern teachings of anesthesia.

An American Text-Book of Pathology. Edited by Ludvig Hektoen, M. D., Professor of Pathology, Rush Medical College, Chicago, and David Riesman, M. D., Professor of Clinical Medicine, Philadelphia Polyclinic. Handsome imperial octavo of 1245 pages, 443 illustrations, 66 of them in colors. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $7.50; Sheep or Half Morocco, $8.50, net.

This text-book of pathology certainly deserves most favorable criticism. It is a marked improvement over all other text-books of pathology which we have seen in the English language, and approaches somewhat towards what we are accustomed to find only in German books on this subject. The different divisions of pathology are well treated, and are illustrated in a most effective way. Instead of the superficial method of discussing the pathology of different diseases, the work in hand goes into all departments exhaustively enough to give the student and the practitioner a good working knowledge of the subject.

The most recent advances in pathology are taken cognizance of in this work

and are discussed in a most scholarly way by each author. We feel quite favorably towards this new book and believe that it is what has been long desired—*i. e.*, a good text-book on pathology in the English language.

ESSENTIALS OF DISEASES OF THE EYE. SAUNDERS' QUESTION-COMPENDS NO. 14. By EDWARD JACKSON, A. M., M. D. Third edition, revised and enlarged. 261 pages, 82 illustrations.

Dr. Jackson appreciates to an unusual degree precisely the limitations of a question-compend, and is uniformly successful in never transcending these limitations. In a work of this sort the author must feel embarrassed at the necessity of omitting many topics of foremost interest, and it is greatly to Dr. Jackson's credit that he has succeeded in producing an admirable syllabus of the generally accepted dicta of ophthalmology, steering the while between the Scylla of diffuseness and the Charybdis of too rigorous compression.

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